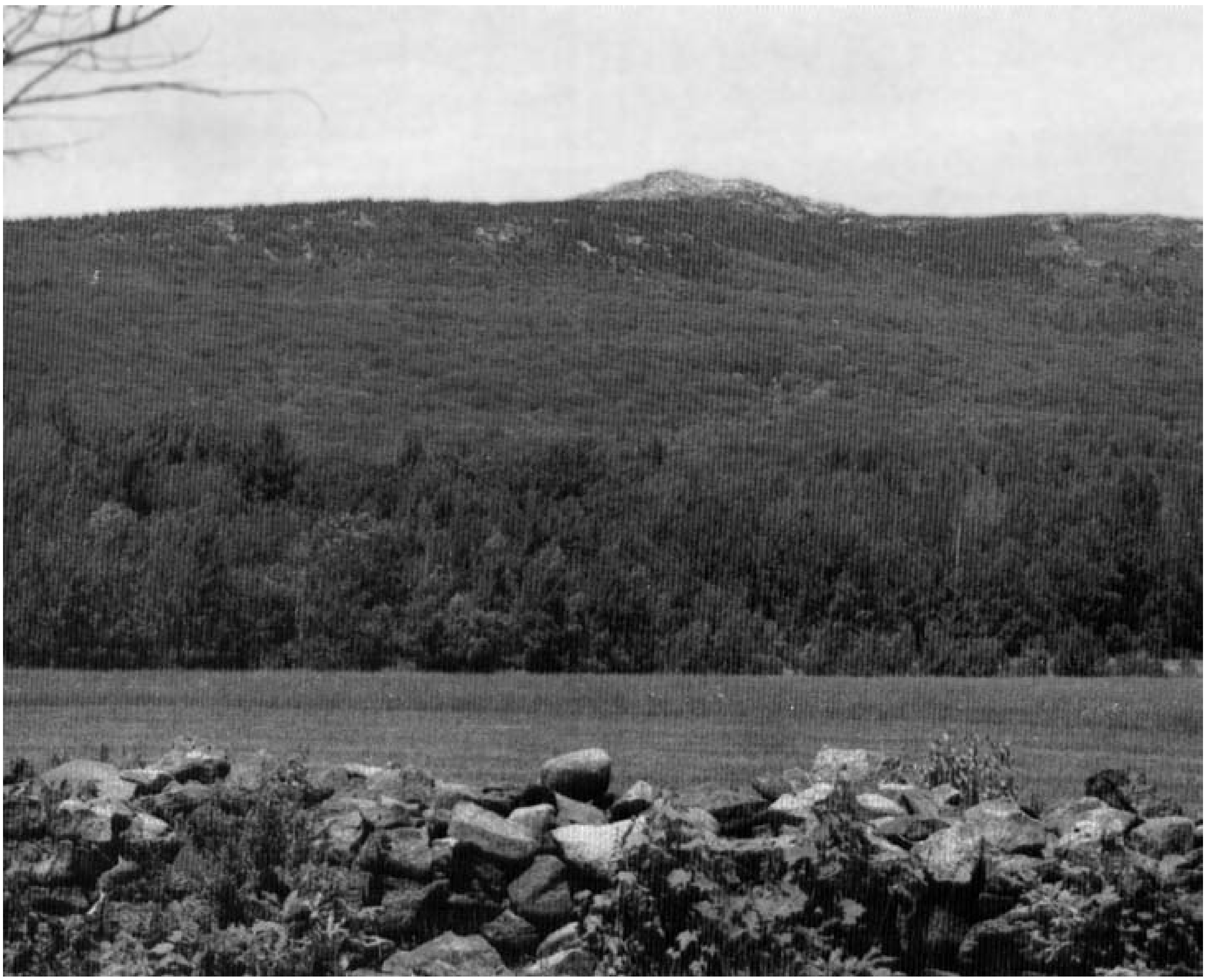
United States
Department of
Agriculture

Soil
Conservation
Service

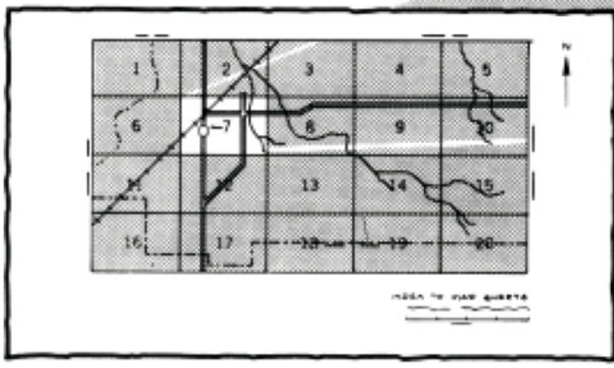
In cooperation with
New Hampshire
Agricultural Experiment
Station

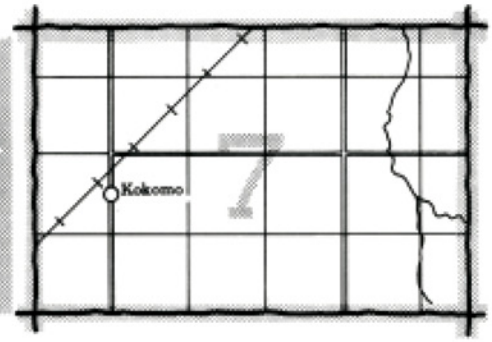
Soil Survey of Cheshire County New Hampshire



HOW TO USE

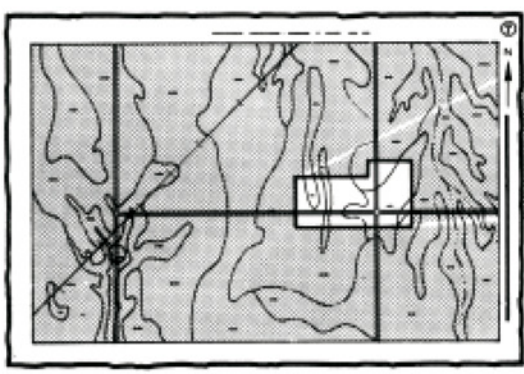
1. Locate your area of interest on the "Index to Map Sheets"

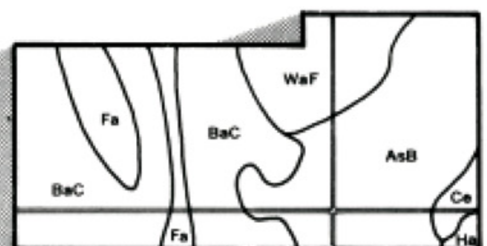




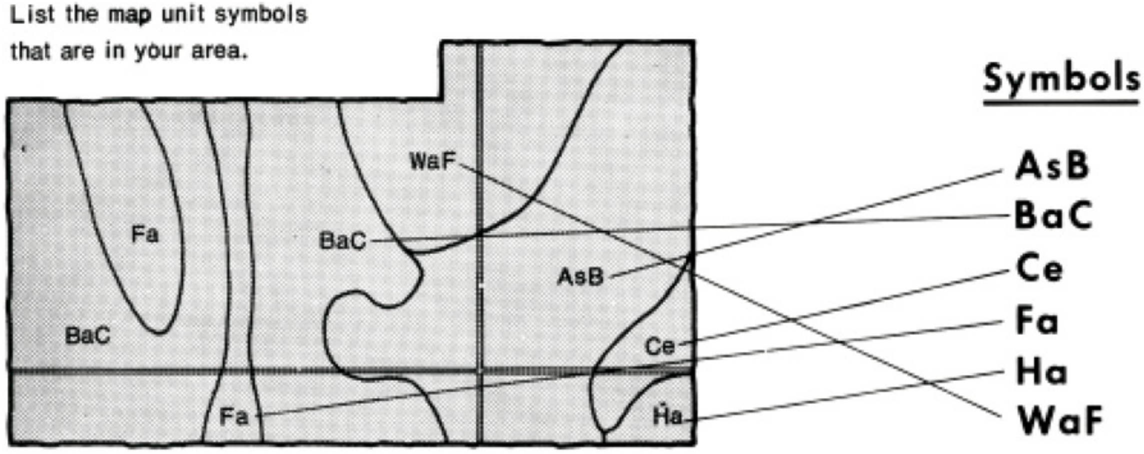
2. Note the number of the map sheet and turn to that sheet.

3. Locate your area of interest on the map sheet.



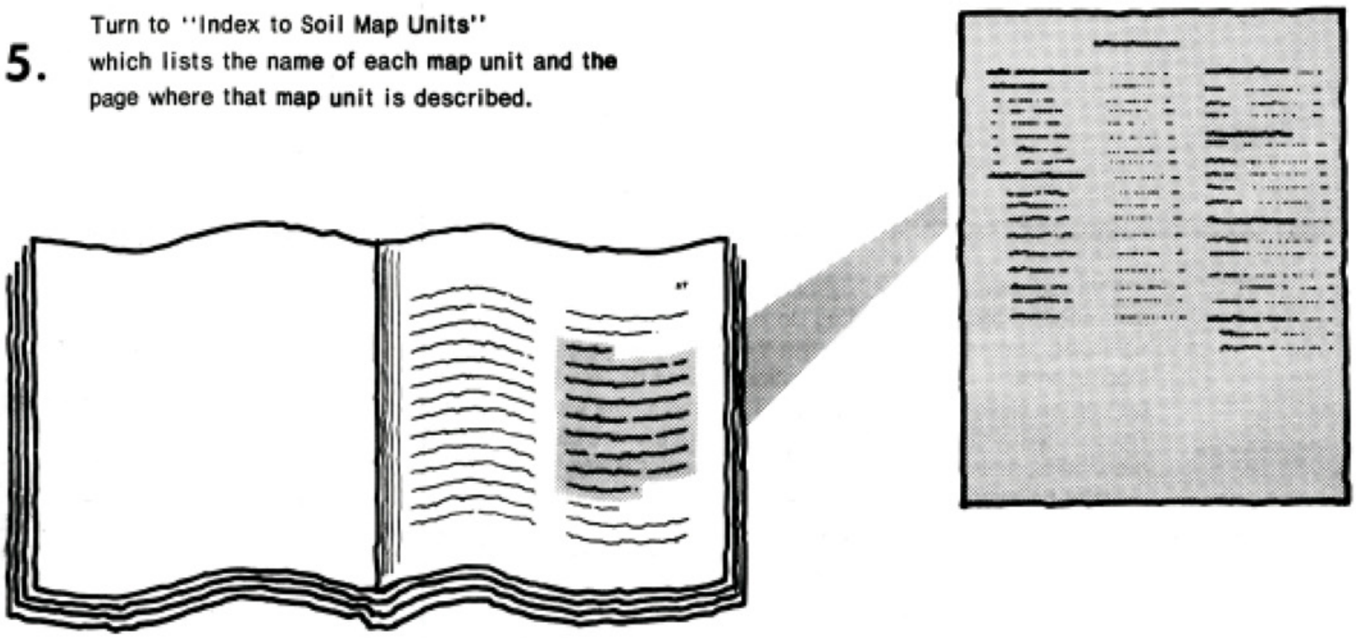


4. List the map unit symbols that are in your area.

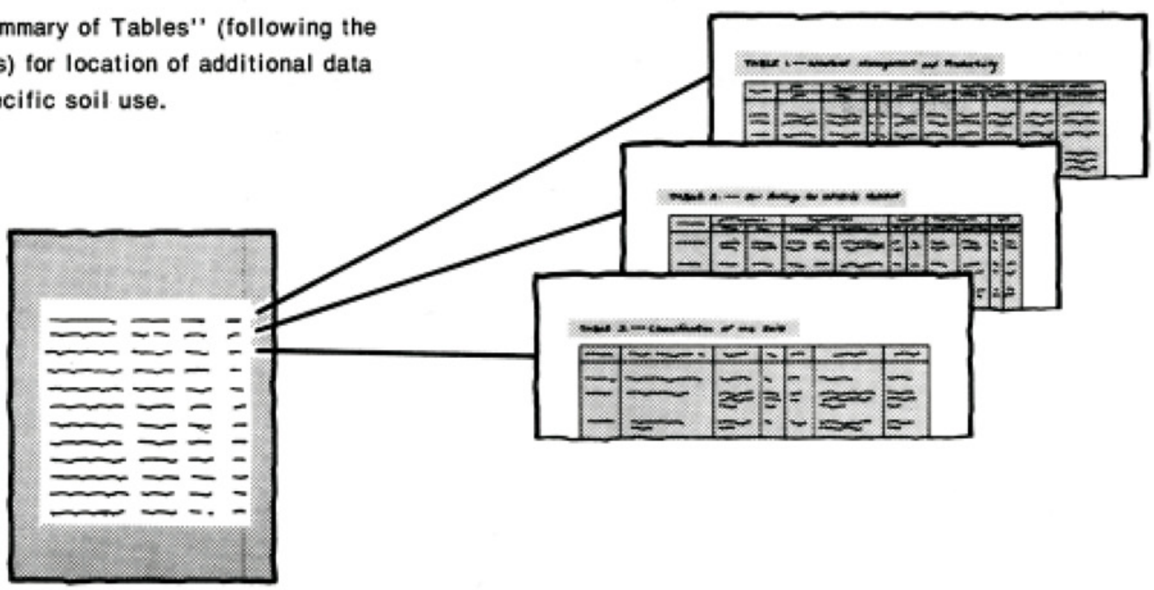


THIS SOIL SURVEY

5. Turn to "Index to Soil Map Units" which lists the name of each map unit and the page where that map unit is described.



6. See "Summary of Tables" (following the Contents) for location of additional data on a specific soil use.



7. Consult "Contents" for parts of the publication that will meet your specific needs. This survey contains useful information for farmers or ranchers, foresters or agronomists; for planners, community decision makers, engineers, developers, builders, or homebuyers; for conservationists, recreationists, teachers, or students; to specialists in wildlife management, waste disposal, or pollution control.

This soil survey is a publication of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other federal agencies, state agencies including the Agricultural Experiment Stations, and local agencies. The Soil Conservation Service has leadership for the federal part of the National Cooperative Soil Survey.

Major fieldwork for this soil survey was completed in 1984. Soil names and descriptions were approved in 1985. Unless otherwise indicated, statements in this publication refer to conditions in the survey area in 1985. This survey was made cooperatively by the Soil Conservation Service and the New Hampshire Agricultural Experiment Station. The survey is part of the technical assistance furnished to the Cheshire County Conservation District.

Soil maps in this survey may be copied without permission. Enlargement of these maps, however, could cause misunderstanding of the detail of mapping. If enlarged, maps do not show the small areas of contrasting soils that could have been shown at a larger scale.

This soil survey supersedes the soil survey of Cheshire and Sullivan Counties published in 1949 (*5*).

All programs and services of the Soil Conservation Service are offered on a nondiscriminatory basis, without regard to race, color, national origin, religion, sex, age, marital status, or handicap.

Cover: This area is in the Berkshire-Tunbridge-Lyman map unit on the general soil map. Mount Monadnock is in the background.

Contents

Soil Series

Issued June 1989

Index to Map Units

Summary of Tables

Foreword

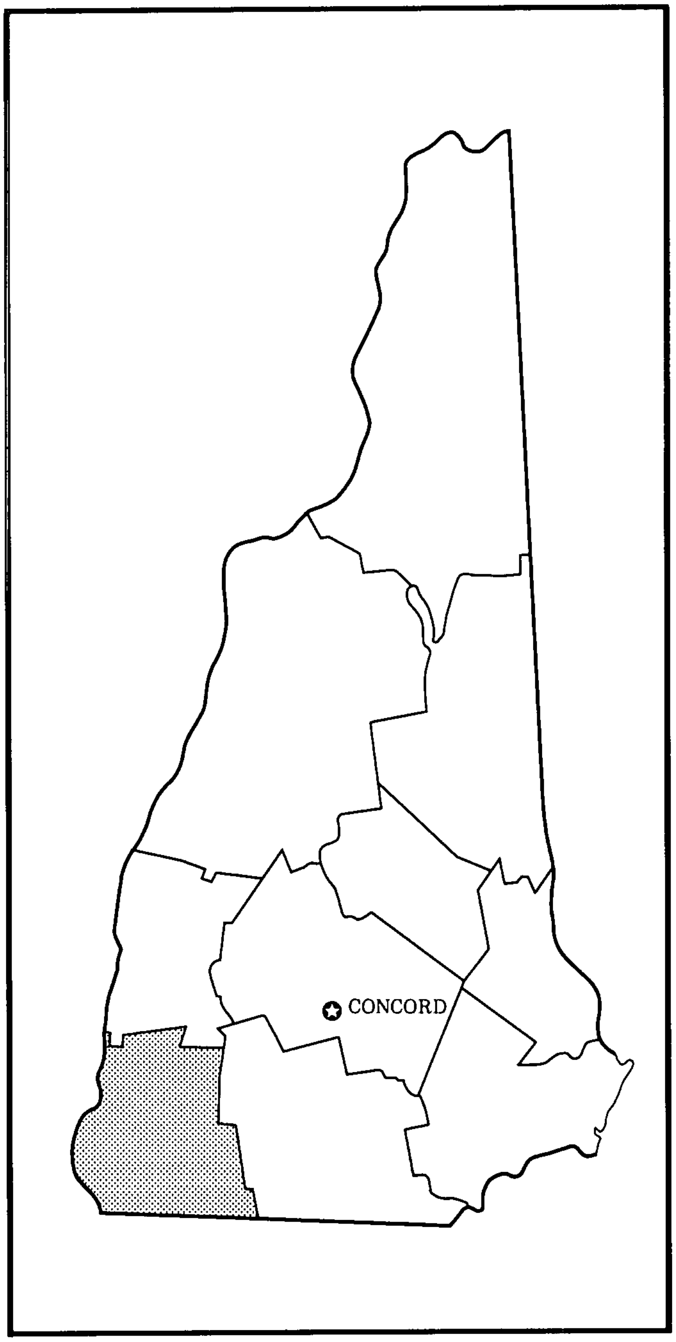
This soil survey contains information that can be used in land-planning programs in Cheshire County. It contains predictions of soil behavior for selected land uses. The survey also highlights limitations and hazards inherent in the soil, improvements needed to overcome the limitations, and the impact of selected land uses on the environment.

This soil survey is designed for many different users. Farmers, foresters, and agronomists can use it to evaluate the potential of the soil and the management needed for maximum food and fiber production. Planners, community officials, engineers, developers, builders, and home buyers can use the survey to plan land use, select sites for construction, and identify special practices needed to ensure proper performance. Conservationists, teachers, students, and specialists in recreation, wildlife management, waste disposal, and pollution control can use the survey to help them understand, protect, and enhance the environment.

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are shallow to bedrock. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

These and many other soil properties that affect land use are described in this soil survey. Broad areas of soils are shown on the general soil map. The location of each soil is shown on the detailed soil maps. Each soil in the survey area is described. Information on specific uses is given for each soil. Help in using this publication and additional information are available at the local office of the Soil Conservation Service or the Cooperative Extension Service.

David L. Mussulman
State Conservationist
Soil Conservation Service



Location of Cheshire County in New Hampshire.

Soil Survey of Cheshire County, New Hampshire

By Gerald L. Rosenberg, Soil Conservation Service

Fieldwork by Gerald L. Rosenberg, Geoffrey W. Coombs, Edward P. Ealy, Jr., Richard W. Diers, Richard W. Bond, Roy A. Shook, Jr., Carl E. Dellinger, and Stephen H. Gourley, Soil Conservation Service

United States Department of Agriculture, Soil Conservation Service
In cooperation with New Hampshire Agricultural Experiment Station

CHESHIRE COUNTY is in the southwest part of New Hampshire. It has an area of about 457,856 acres, or 715 square miles. The county is divided into 22 towns and the city of Keene. Keene, which is approximately the geographical center of the county, is the county seat.

The county is characterized by a hilly terrain, a scattering of mountains, and, in small part, river valleys. Most major population centers and many of the larger farms are on terraces and flood plains in the valleys of the Connecticut, Ashuelot, Contoocook, and Cold Rivers.

The soils in the hilly and mountainous areas of the county are loamy and generally gently sloping to very steep. Stones and boulders cover most areas of these soils. Some areas have been cleared for farming. The soils on the tops of high hills and mountains commonly are shallow or moderately deep to bedrock. The soils on lower side slopes of hills are commonly very deep to bedrock. These soils range from poorly drained to somewhat excessively drained. The major limitations of these soils for farm and nonfarm use are complex slope patterns, stones and boulders on the surface, shallow depth to bedrock, the seasonal high water table, slow permeability, and the hazard of erosion.

The soils in the major stream valleys are nearly level to very steep and sandy or loamy. They range from excessively drained to very poorly drained. The soils that are nearly level or gently sloping, well drained or moderately well drained, and loamy are suited to farming.

This survey supercedes the soil survey of Cheshire and Sullivan Counties published in 1949 (*5*). It updates the earlier survey and provides additional information and larger maps that show the soils in greater detail. Also, it supercedes all interim soil reports provided to many of the towns in the county for resource planning.

Some of the boundaries on the soil maps of the soil survey do not match those on the soil maps of adjoining counties (*8*), and some of the soil names and descriptions do not fully agree. Some of these differences are the result of improvements in classification of soils, and some are the result of legend design.

General Nature of the County

This section provides general information about history and development, climate, physiography, drainage, farming, forestry, and transportation and industry in Cheshire County.

History and Development

The first settlement in Cheshire County was established in Winchester in 1734, followed by Keene in 1736. The early settlers came from Massachusetts. In 1771 what is now New Hampshire was divided into five counties, one of which was Cheshire County. In 1827 the north 15 towns of Cheshire County were separated to form Sullivan County.

From the time of settlement until about 1820 the population of Cheshire County increased steadily. The population of the survey area was dominantly rural, and most of the people were engaged in farming. Between

1820 and 1850 the population remained stationary. After 1850 to about 1880 the rural population declined rapidly as people abandoned many of the hill farms and moved either west or to the urban centers to find work. Urban factories and mills were springing up as a result of the Industrial Revolution. The city of Keene grew rapidly in this time period as did the major towns in the area, such as Winchester, Hinsdale, and Jaffrey. In 1980 the estimated population of the county was 62,116, and that of the city of Keene was 21,449.

Climate

Prepared by the National Climatic Center, Asheville, North Carolina

In Cheshire County, winters are cold and summers are moderately warm and have occasional hot spells. Mountains are markedly cooler than the main agricultural areas in the lowlands. Precipitation is well distributed throughout the year and is nearly always adequate for all crops. Winter snows occur frequently, occasionally as blizzards, and cover the ground much of the time.

Table 1 gives data on temperature and precipitation for the survey area as recorded at Keene in the period 1951 to 1981. Table 2 shows probable dates of the first freeze in fall and the last freeze in spring. Table 3 provides data on length of the growing season.

In winter the average temperature is 24 degrees F, and the average daily minimum temperature is 13 degrees. The lowest temperature on record, which occurred at Keene on February 18, 1958, is -31 degrees. In summer the average temperature is 68 degrees, and the average daily maximum temperature is 81 degrees. The highest recorded temperature, which occurred at Keene on August 5, 1955, is 102 degrees.

Growing degree days are shown in table 1. They are equivalent to "heat units." During the month, growing degree days accumulate by the amount that the average temperature each day exceeds a base temperature (40 degrees F). The normal monthly accumulation is used to schedule single or successive plantings of a crop between the last freeze in spring and the first freeze in fall.

The total annual precipitation is 40.38 inches. Of this, 21 inches, or 50 percent, usually falls in April through September. The growing season for most crops falls within this period. In 2 years out of 10, the rainfall in April through September is less than 18 inches. The heaviest 1-day rainfall during the period of record was 3.56 inches at Keene on October 25, 1959. Thunderstorms occur on about 20 days each year, and most occur in summer.

The average seasonal snowfall is 68 inches. The greatest snow depth at any one time during the period of record was 35 inches. On the average, 58 days have at least 1 inch of snow on the ground. The number of such days varies greatly from year to year.

The average relative humidity in midafternoon is about 55 percent. Humidity is higher at night, and the average at dawn is about 80 percent. The sun shines 60 percent of the time possible in summer and 50 percent in winter. The prevailing wind is from the northwest. Average wind speed is highest, 8 miles per hour, in spring.

Physiography

Cheshire County is in two physiographic regions. The western part is in the Connecticut River Valley section, and the rest is in the New England Upland section.

The New England Upland section consists of hills and mountains underlain by schist, granite, and gneiss bedrock. Many of the county's lakes, ponds, bogs, and marshes are located in this section, particularly in the east side of the county. Common elevations are about 1,000 to 1,500 feet, and the tops of mountains mostly reach about 1,700 to 2,000 feet. The highest elevation in the county, Mount Monadnock, is 3,165 feet. The soils in this section are generally coarser textured than the soils in the Connecticut River Valley section. Also, they generally have more stones and boulders on the surface.

The Connecticut River Valley section consists of terraces and flood plains along the Connecticut River and upland hills adjacent to the river valley. The upland hills are dominantly underlain by phyllite bedrock. Elevations on the flood plains and terraces along the Connecticut River generally range from 200 to 400 feet. The lowest elevation in the county, 180 feet, is at the point where the Connecticut River flows into Massachusetts. The upland hills adjacent to terraces have elevations of 500 to 800 feet. The soils in this section generally are medium textured, and have fewer stones on the surface than the soils in the New England Upland section.

Drainage

Most of the county lies within the Connecticut River Valley drainage basin. A small area on the eastern side of the county drains into the Contoocook River, which is part of the Merrimack River drainage basin. The Connecticut River flows south along the entire western boundary of the county. The Ashuelot River is the major tributary of the Connecticut River in the county. It originates in the southeast part of Sullivan County and flows diagonally across Cheshire County, from northeast to southwest, and empties into the Connecticut River near the town of Hinsdale.

Farming

According to the 1978 Census of Agriculture, 221 farms with 39,560 acres of land were in Cheshire County (*9*). Of these farms, 110 listed farming as the principal occupation. The majority of the full-time farms were dairy farms. Of total farm acreage, 11,890 acres was used as

cropland, 7,400 acres was used as pasture, and 17,920 acres was used as woodland.

The major crops in the county are hay and corn silage used as feed for dairy cows. Other important crops are vegetables, small fruits, and apples generally grown for local markets. Other farm enterprises include beef operations, sheep, poultry, and replacement milk cows. Many farmers that have sugar maples supplement their income by producing maple syrup. For a few farmers, these sugarbush operations are a primary source of income.

Forestry

Currently, about 382,900 acres, or 84 percent, of Cheshire County is forested. The bulk of this acreage is privately owned. Of the few state-owned parcels in the county, the largest is Pisgah State Park in the towns of Winchester, Chesterfield, and Hinsdale.

In the 1800's a much larger percentage of Cheshire County was in open land, mainly pasture. As farming declined in the late 1800's most of the abandoned land reverted to forestland. In the 1930's, during the Great Depression, additional acreage of openland was planted to pine plantations. Today the amount of forestland is relatively stable.

The forest in the county supports a strong wood product industry. There are several sawmills in the county that provide lumber for export and for local furniture manufacturing. Some pulpwood is produced in the county. Since the 1970's the cordwood business has increased substantially. Some low-grade cull trees are being chipped as a fuel source. The forests are also used for such recreational activities as hiking, hunting, cross country skiing, and snowmobiling.

Transportation and Industry

Cheshire County is served by an intricate system of state and local highways. This highway system is the major means of transportation into, around, and out of the county. Interstate 91 in Vermont runs parallel to the west boundary of Cheshire County on the west side of the Connecticut River. U.S. 202 runs through the towns of Jaffrey and Rindge in the southeast part of the county.

The railway system has essentially closed down in Cheshire County. Only a short stretch of track in the northwest corner of the county is left from the original system that criss-crossed much of the county.

Dillant-Hopkins Airport, just south of Keene in the town of Swanzey, provides Cheshire County with commercial airline service.

The manufacturing of machine tool products, miniature bearings, wood furniture, filters, marking devices, hospital supplies, scissors, and textiles are important industries in the county. Two insurance companies and a large chicken breeding operation have headquarters in the county. Many industries are located in the city of Keene, and the rest are located in the surrounding towns.

How This Survey Was Made

This survey was made to provide information about the soils in the survey area. The information includes a description of the soils and their location and a discussion of the suitability, limitations, and management of the soils for specified uses. Soil scientists observed the steepness, length, and shape of slopes; the general pattern of drainage; the kinds of crops and native plants growing on the soils; and the kinds of bedrock. They dug many holes to study the soil profile, which is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed. The unconsolidated material has few or no roots or other living organisms and has been changed very little by other biologic activity.

The soils in the survey area occur in an orderly pattern that is related to the geology, the landforms, relief, climate, and the natural vegetation of the area. Each kind of soil is associated with a particular kind of landscape or with a segment of the landscape. By observing the soils in the survey area and relating their position to specific segments of the landscape, a soil scientist develops a concept, or model, of how the soils were formed. Thus, during mapping, this model enables the soil scientist to predict with considerable accuracy the kind of soil at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, acidity, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. The system of taxonomic classification used in the United States is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil scientists classified and named the soils in the survey area, they

compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpreted the data from these analyses and tests as well as the field-observed characteristics and the soil properties in terms of expected behavior of the soils under different uses. Interpretations for all of the soils were field tested through observation of the soils in different uses under different levels of management. Some interpretations are modified to fit local conditions, and new interpretations sometimes are developed to meet local needs. Data were assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management were assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can state with a fairly high degree of probability that a given soil will have a high water table within certain depths in most years, but they cannot assure that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Map Unit Composition

A map unit delineation on a soil map represents an area dominated by one major kind of soil or an area dominated by several kinds of soil. A map unit is identified and named according to the taxonomic classification of the dominant soil or soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural objects. In common with other natural objects, they have a characteristic variability in their properties. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of soils of other taxonomic classes. Consequently, every map unit is made up of the soil or soils for which it is named and some soils that belong to other taxonomic classes. These latter soils are called inclusions or included soils.

Most inclusions have properties and behavioral patterns similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting (similar) inclusions. They may or may not be mentioned in the map unit descriptions. Other inclusions, however, have properties and behavior divergent enough to affect use or require different management. These are contrasting (dissimilar) inclusions. They generally occupy small areas and cannot be shown separately on the soil maps because of the scale used in mapping. The inclusions of contrasting soils are mentioned in the map unit descriptions. A few inclusions may not have been observed and consequently are not mentioned in the descriptions, especially where the soil pattern was so complex that it was impractical to make enough observations to identify all of the kinds of soil on the landscape.

The presence of inclusions in a map unit in no way diminishes the usefulness or accuracy of the soil data. The objective of soil mapping is not to delineate pure taxonomic classes of soils but rather to separate the landscape into segments that have similar use and management requirements. The delineation of such landscape segments on the map provides sufficient information for the development of resource plans, but onsite investigation is needed to plan for intensive uses in small areas.

General Soil Map Units

The general soil map at the back of this publication shows the soil associations in this survey area. Each association has a distinctive pattern of soils, relief, and drainage. Each is a unique natural landscape. Typically, an association consists of one or more major soils and some minor soils. It is named for the major soils. The soils making up one association can occur in another but in a different pattern.

The general soil map can be used to compare the suitability of large areas for general land uses. Areas of suitable soils can be identified on the map. Likewise, areas where the soils are not suitable can be identified.

Because of its small scale, the map is not suitable for planning the management of a farm or field or for selecting a site for a road or building or other structure. The soils in any one association differ from place to place in slope, depth, drainage, and other characteristics that affect management.

Soil Descriptions

1. Windsor-Agawam-Hoosic

Very deep, nearly level to very steep, excessively drained, well drained, and somewhat excessively drained, sandy and loamy soils that formed in glacial outwash deposits

These soils are on terraces and plains along the Connecticut River. The landscape consists of three abrupt levels: a low flood plain adjacent to the Connecticut River; a higher terrace of silt and very fine sand; and a still higher terrace of sand, or sand and gravel. This map unit makes up about 4 percent of the survey area. It is about 21 percent Windsor soils, 13 percent Agawam soils, 13 percent Hoosic soils, and 53 percent minor soils (fig. 1).

Windsor soils are excessively drained, sandy soils on the highest terrace. Agawam soils are well drained and loamy in the upper part and sandy in the lower part. They are on the lower terrace. Hoosic soils are somewhat excessively drained. They are loamy in the upper part and gravelly and sandy in the lower part. They are also on the highest terrace, near Windsor soils. They are generally closer to tributaries of the Connecticut River.

The dominant minor soils are well drained Occum soils, moderately well drained Pootatuck soils, and poorly drained Rippowam soils. These soils are on the low-lying flood plain. Also included are well drained Unadilla and Poocham soils on the lower terrace. Unadilla soils are on top of the terrace. Poocham soils are on the steep and very steep sides of the terrace.

Much of this map unit is used for crops in support of dairy farming. Nearly level or gently sloping areas of Agawam soils are well suited to farming. Gently sloping areas of Hoosic soils are also suited to farming, but droughtiness is a limitation. On Windsor soils, droughtiness is also a limitation. Occum and Pootatuck soils and nearly level or gently sloping areas of Unadilla soils, which are minor soils in this map unit, are well suited to farming.

Agawam soils and nearly level to strongly sloping areas of Windsor and Hoosic soils are suited to urban development. If these areas are used as sites for septic tank absorption fields, ground water pollution is a hazard.

Erosion is a hazard on the soils in this map unit, particularly Poocham and Unadilla soils. Terrace edges have many deep gullies. Erosion control measures are needed for most farm and nonfarm uses.

2. Caesar-Windsor

Very deep, nearly level to very steep, excessively drained, sandy soils that formed in glacial outwash deposits

These soils are mainly along the Ashuelot River on broad, glacial outwash plains. They are also along Mirey Brook in the town of Winchester and along Martin Brook in the towns of Swanzey and Richmond. This map unit makes up about 5 percent of the survey area. It is about 25 percent Caesar soils, 15 percent Windsor soils, and 60 percent minor soils.

Caesar and Windsor soils are excessively drained and sandy. They both formed in thick, stratified, glacial outwash deposits, and are in similar positions on outwash plains and stream terraces.

The dominant minor soils are excessively drained Suncook soils, well drained Occum soils, moderately well drained Pootatuck soils, and poorly drained Rippowam soils. These soils are on low-lying flood plains.

Many areas of this map unit are used for farming, mainly hay and pasture. A sizeable acreage is in urban use. In some areas Caesar and Windsor soils are used as a source of sand. These soils are poorly suited to farming because of droughtiness. They are suited to

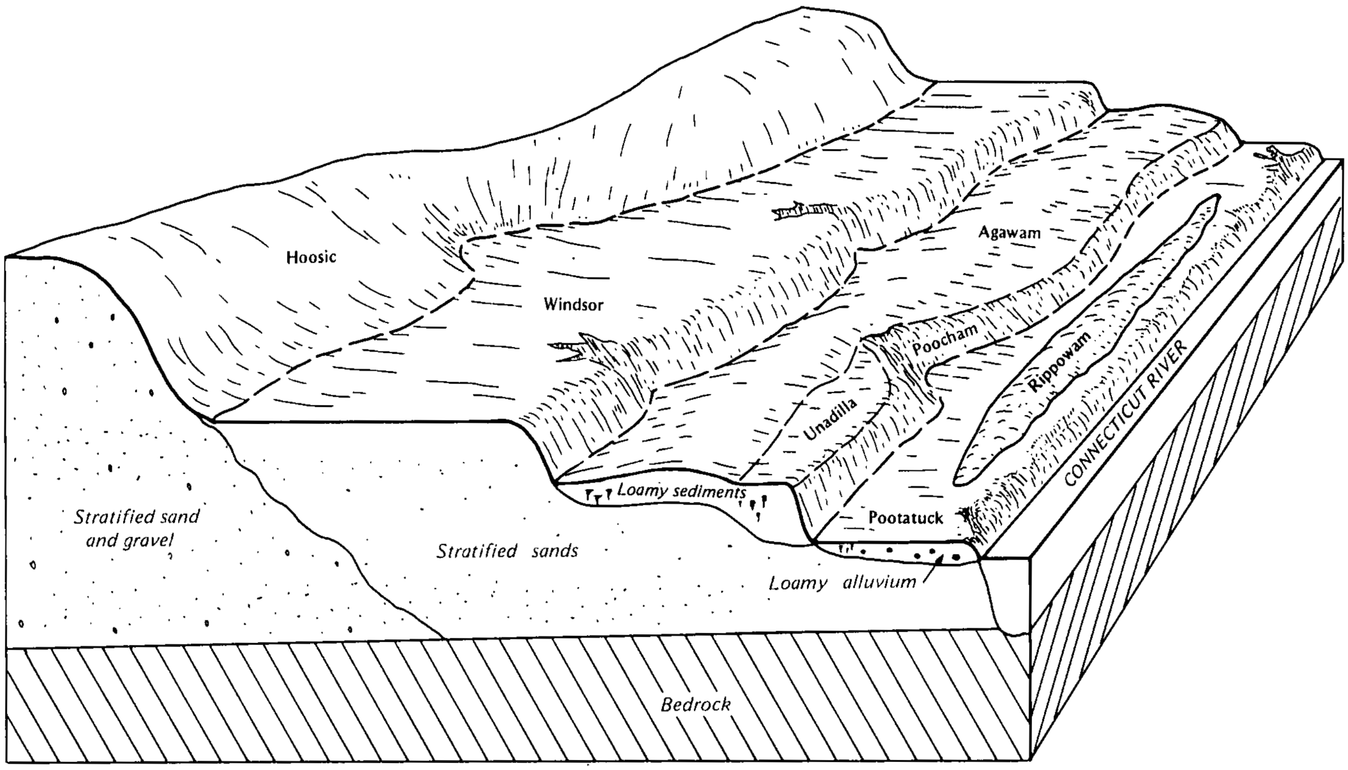


Figure 1.—Typical landscape pattern of soils and underlying material in the Windsor-Agawam-Hoosic general soil map unit.

most types of urban development. If they are used as sites for septic tank absorption fields, ground water pollution is a hazard. They are a probable source of sand. Occum and Pootatuck soils, which are minor soils in this map unit, are suited to and are used for farming. On these two soils and on other soils on flood plains, flooding is a limitation to urban development.

3. Raynham-Ossipee-Rippowam

Very deep, nearly level, poorly drained and very poorly drained, loamy and mucky soils that formed in lake deposits, organic deposits, and alluvial deposits

These soils are in the central and southern parts of the city of Keene near the Ashuelot River. They are on the glacial lake plain and on flood plains of the Ashuelot River and its tributaries. This map unit makes up about 1 percent of the survey area. It is about 17 percent Raynham soils, 17 percent Ossipee soils, 16 percent Rippowam soils, and 50 percent minor soils.

Raynham soils are poorly drained, loamy soils on the glacial lake plain. Ossipee soils are very poorly drained and mucky. They formed in organic material overlying loamy mineral material on the glacial lake plain. Rippowam soils are poorly drained, loamy soils in low-lying areas of flood plains.

The dominant minor soils are excessively drained Caesar soils on higher stream terraces and outwash plains and poorly drained and somewhat poorly drained Naumburg soils and poorly drained Wareham soils in depressions on outwash plains and lake plains. Other minor soils are very poorly drained Saco soils in low-lying areas on flood plains.

This map unit is in many different land uses, most commonly urban development and farming. It is poorly suited to these two uses because of the seasonal high water table and flooding.

4. Colton-Adams

Very deep, nearly level to very steep, excessively drained, sandy soils that formed in glacial outwash deposits

These soils are on stream terraces and glacial outwash plains in river valleys throughout the county. This map unit makes up about 3 percent of the survey area. It is about 50 percent Colton soils, 20 percent Adams soils, and 30 percent minor soils (fig. 2).

Colton and Adams soils are excessively drained and sandy. Colton soils have gravel, but Adams soils generally do not. These soils are on similar landscapes,

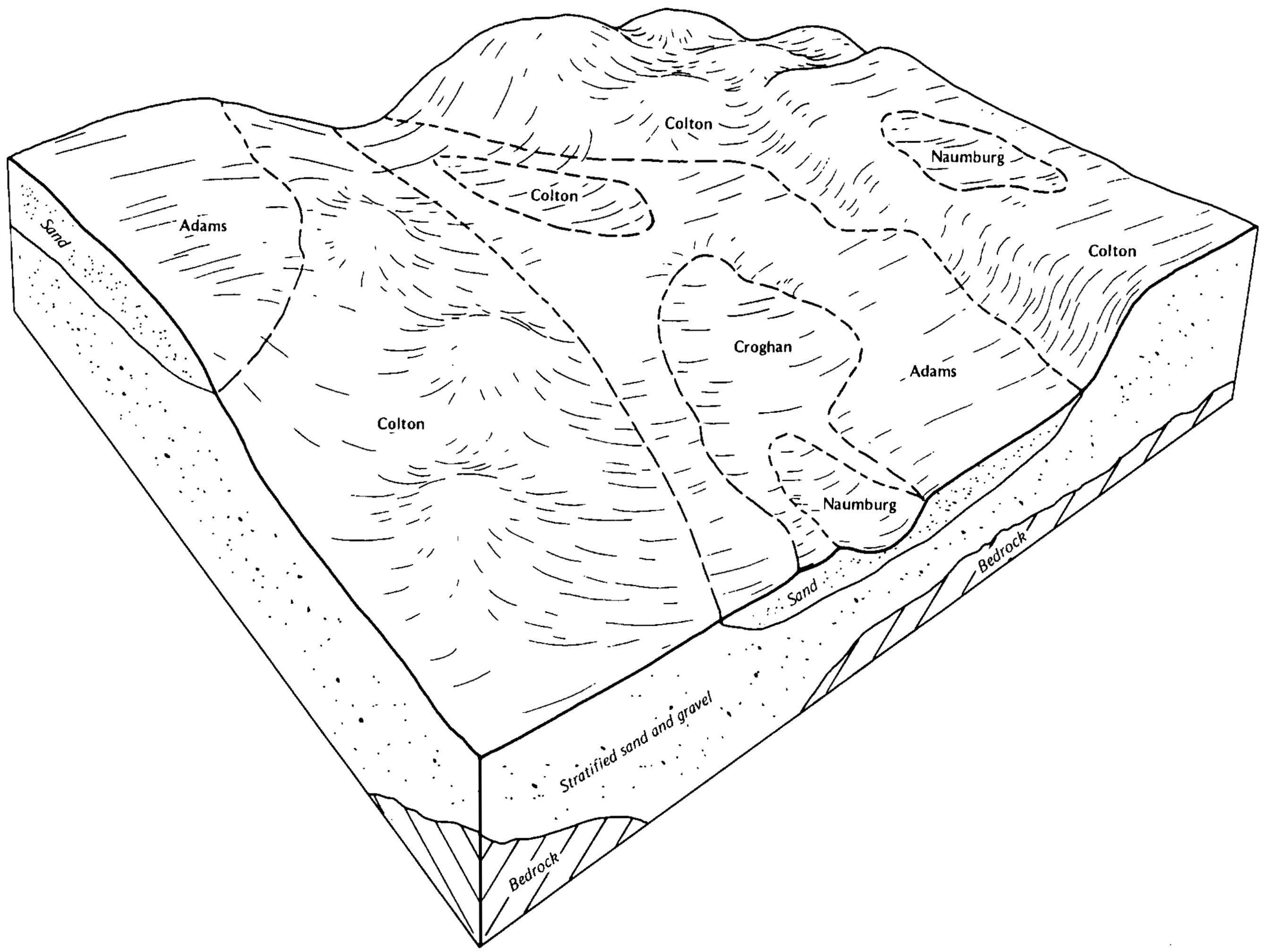


Figure 2.—Typical landscape pattern of soils and underlying material in the Colton-Adams general soil map unit.

and are generally intermingled with other soils in the map unit.

The dominant minor soils are moderately well drained Croghan soils and poorly drained or somewhat poorly drained Naumburg soils. These soils are in depressions on outwash plains.

This map unit is in a variety of land uses, including urban development, farming, and woodland. It is also used as a source of sand and gravel. Nearly level to strongly sloping areas of Colton and Adams soils are suited to urban development. If these soils are used as sites for septic tank absorption fields, ground water pollution is a hazard. They are suited to drought-tolerant white or red pine. Droughtiness is a limitation to use of the soils for corn silage and hay.

5. Bernardston-Cardigan-Kearsarge-Dutchess

Very deep, moderately deep, and shallow, gently sloping to very steep, well drained and somewhat excessively drained, loamy soils that formed in glacial till

These soils are in the western part of the county, on upland hills dissected by many small waterways. In many areas stones are on the surface. On the tops of higher hills rock outcrops are common. This map unit makes up about 18 percent of the county. It is about 22 percent Bernardston soils, 14 percent Cardigan soils, 14 percent Kearsarge soils, 13 percent Dutchess soils, and 37 percent minor soils (fig. 3).

Bernardston soils are very deep, well drained soils that have dense basal till, or a hardpan, at a depth of 15 to 30 inches. They are on smooth, oval hills that have a northwest-southeast orientation. Cardigan soils are moderately deep and well drained. They are 20 to 40

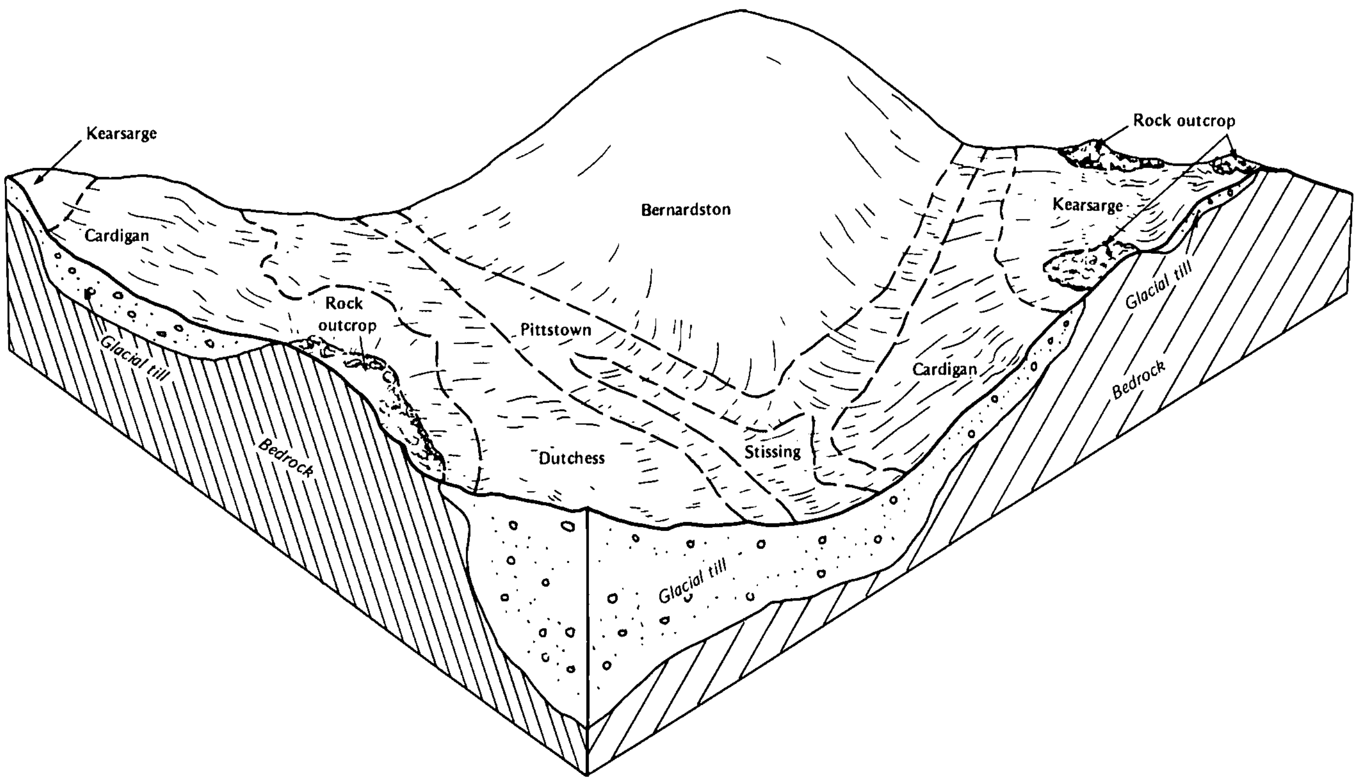


Figure 3.—Typical landscape pattern of soils and underlying material in the Bernardston-Cardigan-Kearsarge-Dutchess general soil map unit.

inches deep over bedrock. They are on tops and sides of hills, and are intermingled with Kearsarge soils. Kearsarge soils are shallow and somewhat excessively drained. They are 10 to 20 inches deep over bedrock. They are on tops and sides of hills, and are intermingled with Cardigan soils. Dutchess soils are very deep and well drained. They are on tops of hills and generally on south-facing side slopes.

The dominant minor soils are moderately well drained Pittstown soils and poorly drained Stissing soils. These soils are generally on lower, concave foot slopes and along drainageways. Also included are small areas of rock outcrops on ridgetops and steep sides of hills and mountains.

This map unit is mostly wooded. Some areas, particularly gently sloping and strongly sloping areas of Bernardston and Dutchess soils, are used for farming. Slope, stones on the surface, rock outcrops, depth to bedrock, and the hazard of erosion are major limitations to use of this map unit for most types of farming and urban development. On Bernardston soils, slow permeability in the hardpan layer is also a limitation to use as sites for septic tank absorption fields. Most areas of the soils in this map unit are suited to woodland use.

Gently sloping, nonstony areas of Bernardston and Dutchess soils are suited to cultivated crops. Strongly sloping, nonstony areas of Bernardston and Dutchess soils are suited to hay and pasture. Gently sloping and strongly sloping areas of Dutchess soils are suited to urban development.

6. Marlow-Berkshire-Tunbridge

Very deep and moderately deep, gently sloping to very steep, well drained, loamy soils that formed in glacial till

These soils are in the eastern part of the county. They are on upland hills dissected by many small waterways. In most areas stones are on the surface. On some of the higher hills, the soils are shallow and small areas of rock outcrops are on crests and upper side slopes. This map unit makes up about 19 percent of the survey area. It is about 45 percent Marlow soils, 15 percent Berkshire soils, 15 percent Tunbridge soils, and 25 percent minor soils (fig. 4).

Marlow soils are very deep and have dense basal till, or a hardpan, at a depth of 14 to 35 inches. They are mostly on smooth, oval hills, or smooth, long convex hillsides. Berkshire soils are very deep and on uneven

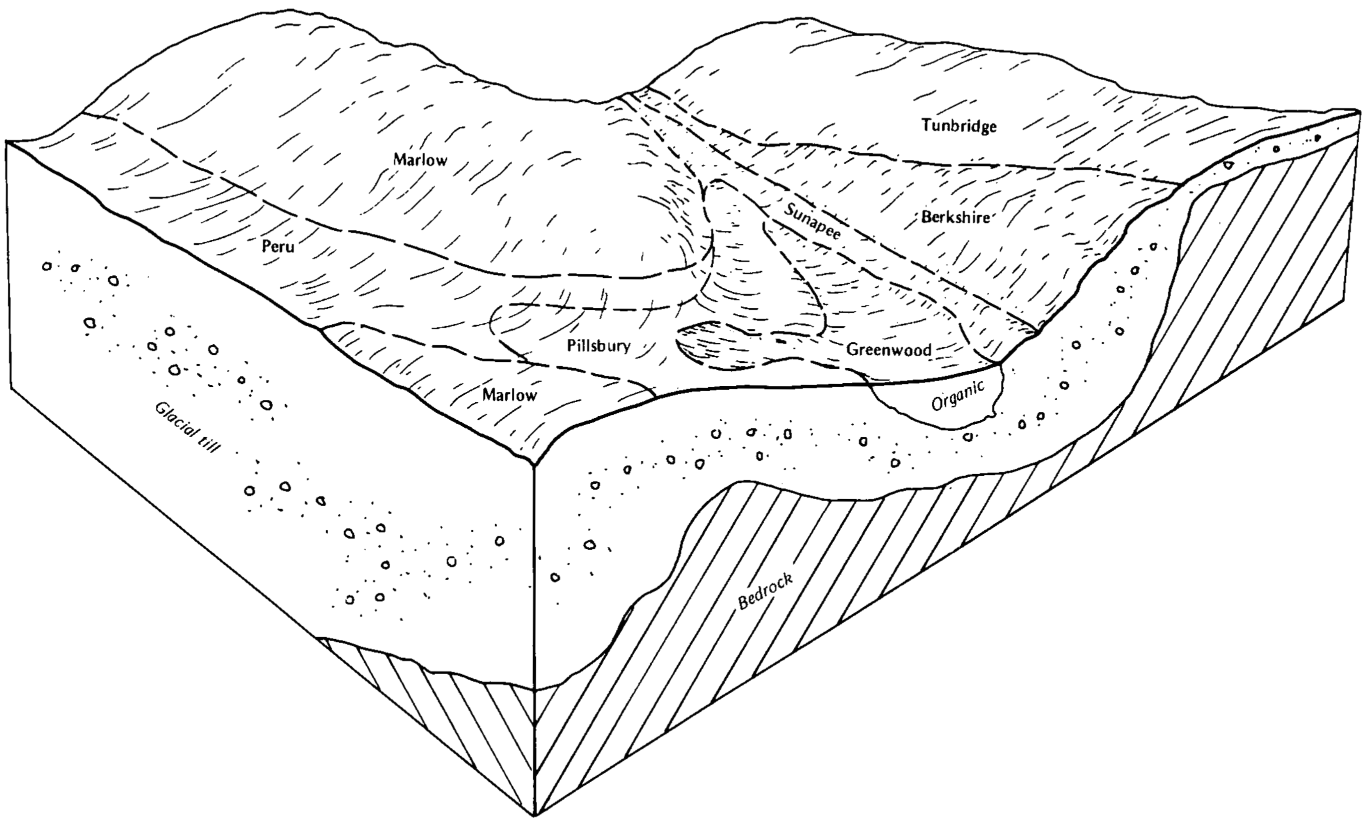


Figure 4.—Typical landscape pattern of soils and underlying material in the Marlow-Berkshire-Tunbridge general soil map unit.

landscapes that consist of crests and side slopes of hills. They are commonly intermingled with Tunbridge soils. Tunbridge soils are moderately deep. They are 20 to 40 inches deep over bedrock. They are on uneven landscapes that consist of crests and side slopes of hills. They are commonly intermingled with Berkshire and Lyman soils.

The dominant minor soils are moderately well drained Peru soils and very poorly drained Greenwood soils. Peru soils are on lower, concave foot slopes and Greenwood soils are in depressions. Also included, generally on tops of hills and mountains, are shallow, somewhat excessively drained Lyman soils and small areas of rock outcrops.

This map unit is mostly wooded, and partly it is used for urban development and a few farms. Most areas are suited to woodland use. Slope, stones on the surface, depth to bedrock, the erosion hazard, and, in Marlow soils, slow permeability in the hardpan layer are major limitations to use of the map unit for farming and urban development. Strongly sloping, nonstony areas are suited to hay and pasture. Gently sloping, nonstony areas of Marlow and Berkshire soils are suited to cultivated crops. Gently sloping to strongly sloping areas of Berkshire soils are suited to urban development. On Marlow soils, slow permeability in the hardpan layer is a limitation to use as sites for septic tank absorption fields.

7. Monadnock-Tunbridge

Very deep and moderately deep, gently sloping to very steep, well drained loamy soils that formed in glacial till

These soils are in the southern part of the county. They are on upland hills and mountains dissected by many small waterways. In most areas stones and boulders are on the surface. On many of the higher hills and mountains, the soils are shallow and small areas of rock outcrops are on the crests and upper side slopes. This map unit makes up about 18 percent of the survey area. It is about 32 percent Monadnock soils, 18 percent Tunbridge soils, and 50 percent minor soils.

Monadnock soils are very deep and well drained. They are on uneven landscapes that consist of crests and side slopes of hills and mountains. Tunbridge soils are moderately deep and well drained. They are 20 to 40 inches deep over bedrock. They are on uneven landscapes that consist of crests and side slopes of hills

and mountains. They are generally intermingled with Berkshire and Lyman soils.

The dominant minor soils are Becket, Lyman, Lyme, Moosilauke, Greenwood, and Berkshire soils. Becket soils are well drained, have a dense substratum, or hardpan, and are on smooth, convex crests and side slopes of hills. Berkshire soils are well drained and on uneven landscapes of crests and side slopes of hills. Lyman soils are shallow to bedrock and are on uneven landscapes of higher hills and mountains. They are intermingled with Tunbridge soils. Very poorly drained Greenwood soils, poorly drained Lyme soils, and poorly drained or somewhat poorly drained Moosilauke soils are in depressions.

This map unit is mostly wooded, and partly it is used for urban development. Most areas are suited to woodland use. Slope, stones on the surface, depth to bedrock, and the erosion hazard are major limitations to use of the map unit for farming and urban development. Gently sloping and strongly sloping areas of Monadnock soils are suited to farming and urban development.

8. Berkshire-Tunbridge-Lyman

Very deep, moderately deep, and shallow, gently sloping to very steep, well drained and somewhat excessively drained, loamy soils that formed in glacial till

These soils are in the central and northeastern parts of the county. They are on upland hills and mountains dissected by many small waterways. They are on many of the higher hills and mountains in the county. Areas of rock outcrop and surface stones and boulders are common on the landscape. This map unit makes up about 32 percent of the survey area. It is about 25 percent Berkshire soils, 15 percent Tunbridge soils, 15 percent Lyman soils, and 45 percent minor soils (fig. 5).

Berkshire soils are very deep to bedrock, Tunbridge soils are moderately deep to bedrock, and Lyman soils are shallow to bedrock. Berkshire and Tunbridge soils are well drained, and Lyman soils are somewhat excessively drained. All are loamy soils. They are generally intermingled, and are on uneven landscapes controlled by the underlying bedrock.

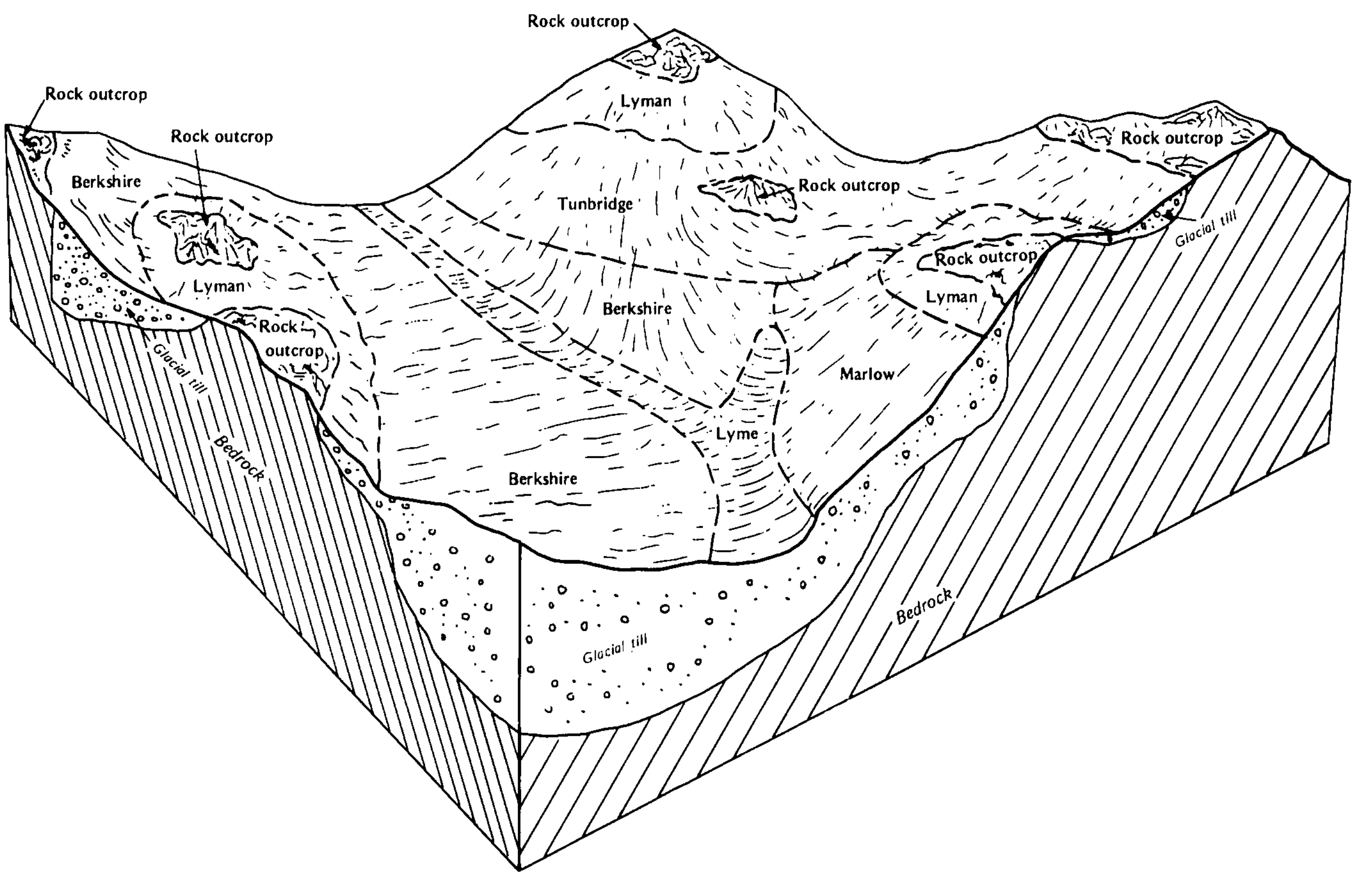


Figure 5.—Typical landscape pattern of soils and underlying material in the Berkshire-Tunbridge-Lyman general soil map unit.

The dominant minor soils are Monadnock, Marlow, Lyme, and Moosilauke soils. Monadnock soils are well drained, and are on uneven landscapes that consist of crests and side slopes. Marlow soils are well drained and have a dense substratum, or hardpan, at a depth of 15 to 35 inches. They are on smooth, convex hills. Lyme soils are poorly drained and are in depressions. Moosilauke soils are poorly drained to somewhat poorly drained, and are also in depressions. Also included, on tops and side slopes of higher hills and mountains, are areas of rock outcrops.

This unit is mostly wooded, and partly it is used for urban development. Most areas of this map unit are suited to woodland use. Slope, depth to bedrock, areas of rock outcrop, stones on the surface, and the erosion hazard are the major limitations to use of this map unit for farming and urban development. In gently sloping to strong sloping areas Berkshire soils are suited to farming and urban development.

Detailed Soil Map Units

The map units on the detailed soil maps at the back of this survey represent the soils in the survey area. The map unit descriptions in this section, along with the soil maps, can be used to determine the suitability and potential of a soil for specific uses. They also can be used to plan the management needed for those uses. More information on each map unit, or soil, is given under "Use and Management of the Soils."

Each map unit on the detailed soil maps represents an area on the landscape and consists of one or more soils for which the unit is named.

A symbol identifying the soil precedes the map unit name in the soil descriptions. Each description includes general facts about the soil and gives the principal hazards and limitations to be considered in planning for specific uses.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer or of the underlying material, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer or of the underlying material. They also can differ in slope, stoniness, wetness, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Marlow fine sandy loam, 3 to 8 percent slopes, is one of several phases in the Marlow series.

Some map units are made up of two or more major soils. These map units are called soil complexes, soil associations, or undifferentiated groups.

A *soil complex* consists of two or more soils, or one or more soils and a miscellaneous area, in such an intricate pattern or in such small areas that they cannot be shown separately on the soil maps. The pattern and proportion of the soils are somewhat similar in all areas. Tunbridge-Berkshire complex, 8 to 15 percent slopes, very stony, is an example.

An *undifferentiated group* is made up of two or more soils that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils in the mapped areas are not uniform. An area can be made up of only one of the major soils, or it can be made up of all of them. Lyme and Moosilauke soils, 0 to 5 percent slopes, very stony, is an undifferentiated group in this survey area.

Most map units include small scattered areas of soils other than those for which the map unit is named. Some of these included soils have properties that differ substantially from those of the major soil or soils. Such differences could significantly affect use and management of the soils in the map unit. The included soils are identified in each map unit description. Some small areas of strongly contrasting soils are identified by a special symbol on the soil maps.

This survey includes *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example. Miscellaneous areas are shown on the soil maps. Some that are too small to be shown are identified by a special symbol on the soil maps.

Table 4 gives the acreage and proportionate extent of each map unit. Other tables (see "Summary of Tables") give properties of the soils and the limitations, capabilities, and potentials for many uses. The Glossary defines many of the terms used in describing the soils.

Soil Descriptions

2—Suncook loamy fine sandy. This is a nearly level, excessively drained soil on flood plains. It is mainly along the Ashuelot River, and partly adjacent to other major streams in the county. Areas of this soil that are long and narrow range from 3 to 20 acres in size, and those that are broad and irregular in shape range from 15 to 80 acres in size. Slopes range from 0 to 3 percent but are dominantly less than 2 percent.

Typically, the surface layer is very dark gray loamy fine sand about 2 inches thick. The substratum in the upper part is olive brown fine sand about 2 inches thick. The substratum in the lower part extends to a depth of 60 inches or more. It is stratified light olive brown, grayish brown, light brownish gray, light olive brown, and dark grayish brown fine sand, sand, and loamy fine sand. A buried surface layer, 4 inches thick, of very dark grayish brown loamy fine sand separates the two parts.

Included with this soil in mapping are small areas of Occum soils that generally are further from the stream channel than Suncook soils. Also included are small areas of moderately well drained and poorly drained

sandy soils in low spots. These soils make up as much as 10 percent of the map unit. A few areas are similar to this Suncook soil, except they have a gravelly surface layer and a very gravelly substratum. In a few areas this soil is subject to frequent flooding.

Permeability of this Suncook soil is rapid or very rapid. The available water capacity is low. Depth to bedrock is more than 60 inches. The seasonal high water table is at a depth of 3 to 6 feet from January through April. Potential frost action is low. The soil is subject to occasional flooding, generally from March through May.

Most areas of this soil are used for hay and pasture. Some areas are used for cultivated crops or are wooded. A few areas are used for residential or commercial development.

This soil is fairly suited to cultivated crops, hay, and pasture. The main limitations are droughtiness and low natural fertility. Irrigation, lime, and fertilizer are needed to improve crop production. Fertilizer applied at two or three intervals during the growing season increases yields. Cover crops and crop residue returned to the soil help to maintain the organic matter content and to control erosion during periods of flooding. A strip of permanent sod adjacent to the stream helps reduce streambank erosion. The soil warms up and dries out early in spring, and consequently can be cultivated and planted early in the growing season. Use of deep-rooted, drought-tolerant grasses and legumes for hay and pasture helps to overcome the low available water capacity.

Potential productivity of eastern white pine on this soil is high. Droughtiness causes severe seedling mortality. There are few or no limitations to forest management or logging operations.

Flooding is the main limitation to use of this soil for urban development. Local roads and streets need careful design and need to be built up above flood levels.

This soil is in capability subclass IIIs.

4—Pootatuck fine sandy loam. This is a nearly level, moderately well drained soil on flood plains. Areas of this soil are generally long and narrow and range from 3 to 20 acres in size, or they are rectangular and range from 10 to 80 acres in size. Slopes range from 0 to 3 percent but are dominantly less than 2 percent.

Typically, the surface layer is dark grayish brown fine sandy loam about 9 inches thick. The subsoil is about 19 inches thick. It is dark yellowish brown fine sandy loam that is mottled in the lower part. The substratum to a depth of 60 inches or more is dark brown very gravelly loamy sand.

Included with this soil in mapping are small areas of Suncook and Occum soils on rises and Rippowam soils in low spots. Also included are small areas of soils that are sandy or gravelly in the surface layer and in the upper part of the subsoil. These soils make up as much as 15 percent of the map unit. Some areas are similar to this Pootatuck soil, except the surface layer and the upper part of the subsoil are silt loam or the substratum is fine sandy loam. A few areas are subject to frequent flooding.

Permeability of this Pootatuck soil is moderate or moderately rapid in the solum and rapid or very rapid in the substratum. The available water capacity is moderate. Depth to bedrock is more than 60 inches. The seasonal high water table is at a depth of 1.5 to 2.5 feet from November through April. Potential frost action is moderate. In most areas the soil is subject to occasional flooding, generally from November through April.

Many areas of this soil are used for hay or cultivated crops. Some areas are used for pasture or are wooded. A few areas are used for residential, commercial, and industrial development. A few areas are in recreation use.

This soil is suited to corn, grasses, legumes, and vegetable crops. It can be cropped continuously. In some years the seasonal high water table restricts the choice of crops and delays cultivation in spring and harvest in fall. Installing tile drainage helps improve suitability of the soil for crops. Cover crops help control erosion during periods of flooding. The few areas of the soil that are subject to frequent flooding are more limited for farming. A strip of permanent sod along the stream channel helps reduce streambank erosion.

Potential productivity of eastern white pine on this soil is very high. There are few limitations to forest management or logging operations.

Flooding and the seasonal high water table severely limit use of this soil for urban development. Local roads and streets need careful design to prevent the damage caused by frost heave and need to be built up above flood levels.

This soil is in capability subclass IIw.

5—Rippowam fine sandy loam. This is a nearly level, poorly drained soil in depressions and in low-lying areas of flood plains. Areas of this soil are long and narrow and range from 3 to 40 acres in size. Slopes range from 0 to 3 percent but are dominantly less than 2 percent.

Typically, the surface layer is very dark grayish brown and dark grayish brown fine sandy loam about 9 inches thick. The substratum to a depth of 60 inches or more is olive brown fine sandy loam, dark grayish brown fine sandy loam, olive gray sandy loam, and dark grayish brown very gravelly sand.

Included with this soil in mapping are small areas of Pootatuck and Occum soils on slight rises and Saco soils in low depressions. These soils make up as much as 10 percent of the map unit. Also included are some areas of soils that are similar to this Rippowam soil but have a thick, dark surface layer, have gravelly sand or sand in the upper part of the substratum, or have fine sandy loam in the lower part of the substratum. Also

included are a few areas of this Rippowam soil that is subject to occasional flooding.

Permeability of this Rippowam soil is moderate or moderately rapid in the surface layer and in the upper part of the substratum and rapid or very rapid in the lower part of the substratum. The available water capacity is moderate. Depth to bedrock is more than 60 inches. The seasonal high water table is between the surface and a depth of 1.5 feet from September through June. The soil is subject to frequent flooding usually from October through May. Potential frost action is high.

Most areas of this soil are wooded. Some areas are used for hay and pasture. A few areas are used for cultivated crops and residential, commercial, and industrial development. A few areas are in recreation use.

This soil is poorly suited to cultivated crops, hay, and pasture. The main limitations are the seasonal high water table and flooding. The soil dries out and warms up slowly in spring, and consequently early planting and machinery operations are restricted. Tile drainage is needed to lower the water table, but in some areas suitable outlets for drainage systems are difficult to establish. Cover crops help to control erosion during periods of flooding. A strip of permanent sod along the stream channel helps reduce streambank erosion. In pasture, deferred grazing during wet periods helps prevent damage caused by animal traffic to the soil surface.

Potential productivity of eastern white pine on this soil is high. The seasonal high water table is a limitation to woodland management and logging operations. Seedling mortality is severe and windthrow is a severe hazard because of the seasonal high water table.

The seasonal high water table and flooding severely limit use of this soil for urban development. Potential of the soil is fair for use as habitat for wetland wildlife.

This soil is in capability subclass IVw.

6—Saco mucky silt loam. This is a nearly level, very poorly drained soil in depressions and in low-lying areas of flood plains. Areas of this soil are long and narrow and range from 3 to 50 acres in size. Slopes range from 0 to 2 percent but are dominantly 1 percent or 0.

Typically, the surface layer is about 12 inches thick. It is very dark gray mucky silt loam in the upper part and very dark grayish brown silt loam in the lower part. The substratum to a depth of 60 inches or more is gray and dark gray silt loam.

Included with this soil in mapping are small areas of Chocorua, Ossipee, Limerick, and Rippowam soils. Also included are soils that have a sandy or gravelly texture in the upper part of the substratum. Included soils make up as much as 20 percent of the map unit.

Permeability of this Saco soil is moderate. The available water capacity is high. Depth to bedrock is more than 60 inches. The seasonal high water table is between the surface and a depth of 0.5 foot from September through June. The soil is subject to frequent flooding from October through May. Potential frost action is high.

Most areas of this soil are in open marshes that consist of water-tolerant, herbaceous plants. Some areas support water-tolerant shrubs or poor quality, water-tolerant tree species.

The seasonal high water table and flooding severely limit this soil for most uses other than as habitat for wetland wildlife.

This soil is in capability subclass VIw.

9—Winooski silt loam. This is a nearly level, moderately well drained soil on flood plains. It is mainly along the Connecticut River. Areas of this soil are long and narrow and range from 4 to 15 acres in size. Slopes range from 0 to 3 percent but are dominantly less than 2 percent.

Typically, the surface layer is dark grayish brown silt loam about 4 inches thick. The substratum extends to a depth of 60 inches or more. It is olive gray very fine sandy loam and olive gray silt loam in the upper part and olive and olive gray very fine sandy loam in the lower part. It is mottled below a depth of 16 inches.

Included with this soil in mapping are small areas of Limerick soils in low spots. Also included are areas of soils that have a gravelly sand texture below a depth of 24 inches. A few areas of this soil are subject to frequent flooding. Included soils make up as much as 10 percent of the map unit.

Permeability of this Winooski soil is moderate or moderately rapid. The available water capacity is high. Depth to bedrock is more than 60 inches. The seasonal high water table is at a depth of 1.5 to 3 feet from November through April. Potential frost action is high. The soil is subject to occasional flooding from February through April.

Most areas of this soil are used for cultivated crops. A few areas are used for hay or pasture or are wooded.

This soil is suited to corn, legumes, grasses, and vegetable crops. It can be cropped continuously. In some years the seasonal high water table restricts the choice of crops and delays cultivation in spring and harvest in fall. Installing subsurface tile drainage helps to improve the suitability of the soil for cultivated crops. Cover crops help to control erosion during periods of flooding. A permanent strip of sod adjacent to the stream helps to reduce streambank erosion.

Potential productivity of eastern white pine on this soil is very high. There are few limitations to forest management or logging operations.

Flooding and the seasonal high water table severely limit use of this soil for urban development. Local roads and streets need careful design to prevent the damage caused by frost heave and need to be built up above flood levels.

This soil is in capability subclass IIw.

10B—Merrimac fine sandy loam, 3 to 8 percent slopes. This is a gently sloping, somewhat excessively drained soil on glacial outwash plains and terraces. Areas of this soil generally are oblong and range from 4 to 20 acres in size.

Typically, the surface layer is dark brown fine sandy loam about 8 inches thick. The subsoil is about 20 inches thick. It is yellowish brown fine sandy loam and sandy loam in the upper part and yellowish brown gravelly loamy sand in the lower part. The substratum to a depth of 60 inches or more is stratified brown gravelly sand, pale olive fine sand, and olive gravelly sand.

Included with this soil in mapping are small areas of Windsor, Caesar, Colton, Sheepscot, and Croghan soils. Windsor, Caesar, and Colton soils are randomly intermixed throughout the map unit. Sheepscot and Croghan soils are in low spots. Also included are a few areas of soils that have stones on the surface and a few areas of soils that have slopes of less than 3 percent. These soils make up as much as 15 percent of the map unit.

Permeability of this Merrimac soil is moderately rapid in the surface layer and the upper part of the subsoil, moderately rapid or rapid in the lower part of the subsoil, and rapid in the substratum. The available water capacity is moderate. Depth to bedrock is more than 60 inches. The seasonal high water table is at a depth of more than 6 feet. Potential frost action is low.

This soil is used as woodland and for pasture, hay, and cultivated crops. Some areas are used for residential development, are in recreation use, or are used as a source of sand and gravel.

This soil is suited to cultivated crops, grasses, legumes, and vegetable crops. Contour plowing, conservation tillage, and cover crops help control erosion. Cover crops and crop residue returned to the soil help maintain soil tilth and the organic matter content and conserve moisture. In dry years droughtiness limits crop growth. Irrigation increases crop yields. The soil dries out and warms up early in spring, and consequently can be cultivated and planted early in the growing season. Use of deep-rooted, drought-tolerant grasses and legumes for hay and pasture is a suitable management practice.

Potential productivity of eastern white pine on this soil is high. There are few or no limitations to forest management or logging operations.

This soil is suited to urban development. If the soil is used as sites for septic tank absorption fields, ground water pollution is a hazard. The soil readily absorbs but does not adequately filter the effluent because of rapid permeability. Careful design and installation of septic tank absorption fields are needed to prevent ground water pollution. Establishing plant cover at construction sites helps control erosion. The soil is a probable source of sand and gravel.

This soil is in capability subclass IIs.

10C—Merrimac fine sandy loam, 8 to 15 percent slopes. This is a strongly sloping, somewhat excessively drained soil on glacial outwash plains, kames, and terraces. Areas of this soil generally are long and narrow, and range from 3 to 15 acres in size.

Typically, the surface layer is dark brown fine sandy loam about 8 inches thick. The subsoil is about 20 inches thick. It is yellowish brown fine sandy loam and sandy loam in the upper part and yellowish brown gravelly loamy sand in the lower part. The substratum to a depth of 60 inches or more is stratified brown gravelly sand, pale olive fine sand, and olive gravelly sand.

Included with this soil in mapping are small areas of Windsor, Caesar, Colton, Sheepscot, and Croghan soils. Windsor, Caesar, and Colton soils are randomly intermixed throughout the map unit. Sheepscot and Croghan soils are in low spots. Also included are a few areas of soils that have stones on the surface. These soils make up as much as 15 percent of the map unit.

Permeability of this Merrimac soil is moderately rapid in the surface layer and upper part of the subsoil, moderately rapid or rapid in the lower part of the subsoil, and rapid in the substratum. The available water capacity is moderate. Depth to bedrock is more than 60 inches. The seasonal high water table is at a depth of more than 6 feet. Potential frost action is low.

Most areas of this soil are wooded. Some areas are used for hay, for urban development, or as a source of sand and gravel.

This soil is poorly suited to cultivated crops and suited to grasses and legumes. The limitations to cultivated crops are slope and droughtiness. Conservation tillage, contour farming, and cover crops help control erosion. Cover crops and crop residue returned to the soil help maintain soil tilth and the organic matter content and conserve moisture. Droughtiness limits crop growth on this soil, particularly during periods of low rainfall in the growing season. Use of deep-rooted, drought-tolerant grasses and legumes for hay and pasture are a suitable management practice.

Potential productivity of eastern white pine on this soil is high. There are few limitations to forest management or logging operations. Constructing logging roads on the contour helps control erosion.

This soil is suited to urban development. The main limitation is slope. If the soil is used as sites for septic tank absorption fields, ground water pollution is a hazard. The soil readily absorbs but does not adequately filter the effluent because of rapid permeability. Careful design and installation of septic tank absorption fields are needed to prevent ground water pollution. On construction sites, establishing plant cover helps control

erosion. The soil is a probable source of sand and gravel for use in construction.

This soil is in capability subclass IIIe.

14B—Sheepscot sandy loam, 0 to 5 percent slopes. This is a nearly level and gently sloping, moderately well drained soil on glacial outwash plains and terraces. Areas of this soil are irregular in shape and range from 3 to 20 acres in size.

Typically, the surface layer is a black, well decomposed organic mat about 2 inches thick. The subsurface layer is reddish gray sandy loam about 3 inches thick. The subsoil extends to a depth of 32 inches. It is dark reddish brown gravelly fine sandy loam to a depth of 13 inches and reddish brown and yellowish red very gravelly sand to a depth of 22 inches. Below that, it is mottled, yellowish brown very gravelly sand. The substratum extends to a depth of 60 inches or more. It is brownish yellow gravelly sand in the upper part and dark yellowish brown and brownish yellow very gravelly sand and coarse sand in the lower part.

Included with this soil in mapping are small areas of Colton soils on rises and small areas of Moosilauke and Naumburg soils in depressions. These soils make up as much as 10 percent of the map unit. Also included, randomly intermixed throughout the map unit, are areas of Croghan soils.

Permeability of this Sheepscot soil is moderately rapid in the surface layer and the upper part of the subsoil and rapid or very rapid in the lower part of the subsoil and the substratum. The available water capacity is low. Depth to bedrock is more than 60 inches. The seasonal high water table is at a depth of 1.5 to 2.5 feet from November through May. Potential frost action is low.

Most areas of this soil are wooded. A few areas are used for hay or pasture. A few areas are used as homesites.

The soil is suited to cultivated crops, hay, and pasture. The seasonal high water table in spring, low available water capacity during the growing season, and low natural fertility limit use of this soil for farming. Tile drainage, irrigation, and lime and fertilizer are needed to improve crop yields. Fertilizer applied at two or three intervals during the growing season increases yields. Cover crops and crop residue returned to the soil help maintain soil tilth and the organic matter content and conserve moisture. Use of deep-rooted, drought-tolerant grasses and legumes for hay and pasture helps overcome the low available water capacity.

Potential productivity of eastern white pine on this soil is high. There are few or no limitations to forest management or logging operations.

The seasonal high water table limits use of this soil for most types of urban development. If the soil is used as sites for septic tank absorption fields, ground water pollution is a hazard. The soil readily absorbs but does not adequately filter the effluent because of rapid or very rapid permeability. Special design and installation of septic tank absorption fields, such as raised absorption beds, are needed to prevent ground water pollution. Curtain drains around house foundations and sealed foundation walls help prevent wet basements. The soil is a probable source of sand and gravel for use in construction.

This soil is in capability subclass IIe.

15—Searsport mucky peat. This is a nearly level, very poorly drained soil in depressions and along drainageways on glacial outwash plains and terraces. Areas of this soil are irregular in shape or are long and narrow, and range from 4 to 20 acres in size. Slopes range from 0 to 3 percent but are dominantly less than 1 percent.

Typically, the surface layer is about 12 inches thick. It is black mucky peat in the upper part and very dark gray muck in the lower part. The substratum to a depth of 60 inches or more is grayish brown sand, light brownish gray sand, variegated olive gray and olive coarse sand, and variegated light brownish gray and light yellowish brown coarse sand.

Included with this soil in mapping are small areas of Naumburg and Croghan soils on rises. Also included are Chocorua soils generally in the center of the map unit or at the edges of areas that adjoin organic deposits. These soils make up as much as 10 percent of the map unit. Also included are some areas that are similar to this Searsport soil but that have silts and very fine sands in the lower part of the substratum, gravelly or very gravelly textures in the lower part of the substratum, or a dark, mineral surface layer.

Permeability of this Searsport soil is rapid in the surface layer and rapid or very rapid in the substratum. The available water capacity is moderate. Depth to bedrock is more than 60 inches. The seasonal high water table is between 1 foot above the surface and 1 foot below the surface from September through July. Potential frost action is moderate.

Most areas of this soil are woodland that consists of water-tolerant tree species. The other areas are open marshes that support water-tolerant herbaceous plants. Some of these areas also have water-tolerant shrubs.

This soil is not suitable for agricultural uses or urban development because of the seasonal high water table.

Windthrow is a severe hazard, seedling mortality is severe, and the seasonal high water table severely limits use of equipment for woodland management practices and logging operations.

Potential of this soil is good for use as habitat for wetland wildlife.

This soil is in capability subclass Vw.

22A—Colton loamy fine sand, 0 to 3 percent slopes. This is a nearly level, excessively drained soil on glacial outwash plains and terraces. Areas of this soil

generally are somewhat oval and range from 5 to 30 acres in size.

Typically, the surface layer is black loamy fine sand about 2 inches thick. The subsoil is about 16 inches thick. It is dark brown loamy sand and strong brown gravelly loamy sand in the upper part and yellowish brown very cobbly loamy sand in the lower part. The substratum extends to a depth of 60 inches or more. It is yellowish brown extremely gravelly sand in the upper part and olive brown extremely gravelly coarse sand in the lower part.

Included with this soil in mapping are small areas of Sheepscot and Moosilauke soils in low spots. Also included, randomly intermixed throughout the map unit, are small areas of Merrimac and Adams soils. These soils make up about 15 percent of the map unit. Also included are some areas of soils that are similar to this Colton soil but have a surface layer of gravelly loamy sand.

Permeability of this Colton soil is rapid or very rapid above the substratum and very rapid in the substratum. The available water capacity is very low. Depth to bedrock is more than 60 inches. The seasonal high water table is at a depth of more than 6 feet. Potential frost action is low.

This soil is in a variety of land uses. Some areas are used as home sites. Some areas are in recreation uses, such as campsites, playgrounds, and ball parks. Some areas are used for hay or pasture. Other areas that had been cleared of trees and cultivated have been planted to pine or have reverted naturally to woodland. A few areas have been or are mined for sand and gravel, and a few areas are used as sites for cemeteries.

This soil is fairly suited to cultivated crops, hay, and pasture because of droughtiness and low natural fertility. Irrigation and applications of lime and fertilizer are needed to improve crop yields. Fertilizer applied at two or three intervals during the growing season increases yields. Cover crops and crop residue returned to the soil help maintain soil tilth and the organic matter content and conserve moisture. The soil warms up and dries out early in spring and can be cultivated and planted early in the growing season.

Potential productivity of eastern white pine on this soil is high. There are few limitations to forest management and logging operations. Seedling mortality is high because of droughtiness.

This soil is suited to urban development. If it is used as sites for septic tank absorption fields, ground water pollution is a hazard. The soil readily absorbs but does not adequately filter the effluent because of very rapid permeability. Special design and installation of septic tank absorption fields are needed to prevent ground water pollution. Lawn grasses and shallow-rooted trees and shrubs require frequent watering during dry periods. The soil is a probable source of sand and gravel for use in construction.

This soil is in capability subclass IIIs.

22B—Colton loamy fine sand, 3 to 8 percent slopes. This is a gently sloping, excessively drained soil on glacial outwash plains and terraces. Areas of this soil generally are irregular in shape or oblong, and range from 4 to 40 acres in size.

Typically, the surface layer is black loamy fine sand about 2 inches thick. The subsoil is about 16 inches thick. It is dark brown loamy sand and strong brown gravelly loamy sand in the upper part and yellowish brown very cobbly loamy sand in the lower part. The substratum extends to a depth of 60 inches or more. It is yellowish brown extremely gravelly sand in the upper part and olive brown extremely gravelly coarse sand in the lower part.

Included with this soil in mapping are small areas of Sheepscot and Moosilauke soils in low spots. Also included, randomly intermixed throughout the map unit, are small areas of Merrimac and Adams soils. These soils make up about 15 percent of the map unit. Also included are some areas that are similar to this Colton soil but have a surface layer of gravelly loamy sand. Also included are a few areas of soils that have stones on the surface.

Permeability of this Colton soil is rapid or very rapid above the substratum and very rapid in the substratum. The available water capacity is very low. Depth to bedrock is more than 60 inches. The seasonal high water table is at a depth of more than 6 feet. Potential frost action is low.

This soil is in a variety of land uses. Some areas are used as homesites, mobile home parks, and campsites. Some areas are used for hay or pasture. Other areas that had been cleared of trees and cultivated have been planted to pine or have reverted naturally to woodland. A few areas have been or are mined for sand and gravel, and a few areas are used as sites for cemeteries.

This soil is fairly suited to cultivated crops, hay, and pasture because of droughtiness and low natural fertility. Irrigation and applications of lime and fertilizer are needed to improve crop yields. Fertilizer applied at two or three intervals during the growing season increases crop yields. Cover crops and crop residue returned to the soil help maintain soil tilth and the organic matter content and conserve moisture. The soil warms up and dries out early in spring, and can be cultivated and planted early in the growing season. Conservation tillage and contour farming help control erosion.

Potential productivity of eastern white pine on this soil is high. There are few limitations to forest management and logging operations. Seedling mortality is severe because of droughtiness.

This soil is suited to urban development. If it is used as sites for septic tank absorption fields, ground water pollution is a hazard. The soil readily absorbs but does not adequately filter the effluent because of very rapid

permeability. Special design and installation of septic tank absorption fields are needed to prevent ground water pollution. Lawn grasses and shallow-rooted trees and shrubs require frequent watering during dry periods. On construction sites, establishing a vegetative cover helps control erosion. The soil is a probable source of sand and gravel for use in construction.

This soil is in capability subclass IIIs.

22C—Colton loamy fine sand, 8 to 15 percent slopes. This is a strongly sloping, excessively drained soil on glacial outwash plains, kames, and terraces. Areas of this soil generally are irregular in shape or oblong, and range from 3 to 30 acres in size.

Typically, the surface layer is black loamy fine sand about 2 inches thick. The subsoil is about 16 inches thick. It is dark brown loamy sand and strong brown gravelly loamy sand in the upper part and yellowish brown very cobbly loamy sand in the lower part. The substratum extends to a depth of 60 inches or more. It is yellowish brown extremely gravelly sand in the upper part and olive brown extremely gravelly coarse sand in the lower part.

Included with this soil in mapping are small areas of Sheepscot and Moosilauke soils in low spots. Also included are small areas of Merrimac and Adams soils generally in lower positions on the landscape. These soils make up about 15 percent of the map unit. Also included are some areas of soils that are similar to this Colton soil, but that have a surface layer of gravelly loamy sand. Also included are a few areas of soils that have short slopes of more than 15 percent and a few areas of soils that have stones on the surface.

Permeability of this Colton soil is rapid or very rapid above the substratum and very rapid in the substratum. The available water capacity is very low. Depth to bedrock is more than 60 inches. The seasonal high water table is at a depth of more than 6 feet. Potential frost action is low.

Most areas of this soil are wooded. Some areas are used as homesites, mobile home parks, and campsites. Other areas are used for hay or pasture. A few areas have been or are mined for sand and gravel. A few areas are used as sites for cemeteries.

This soil is poorly suited to cultivated crops, hay, and pasture. The main limitations are droughtiness, slope, and low natural fertility. Irrigation and applications of lime and fertilizer are needed to improve crop yields. Fertilizer applied at two or three intervals during the growing season increases yields. Cover crops and crop residue returned to the soil help to maintain soil tilth and the organic matter content and conserve moisture. Conservation tillage, diversions, stripcropping, and cultivating on the contour help control erosion.

Potential productivity of eastern white pine on this soil is high. There are few limitations to forest management and logging operations. Seedling mortality is severe because of droughtiness. Constructing logging roads on the contour helps control erosion.

This soil is suited to urban development. The main limitation is slope. If the soil is used as sites for septic tank absorption fields ground water pollution is a hazard. The soil readily absorbs but does not adequately filter the effluent because of very rapid permeability. Special design and installation of septic tank absorption fields are needed to prevent ground water pollution. Lawn grasses and shallow-rooted trees and shrubs require frequent watering during dry periods. On construction sites establishing a vegetative cover helps control erosion. The soil is a probable source of sand and gravel for use in construction (fig. 6).

This soil is in capability subclass IVs.

22E—Colton loamy fine sand, 15 to 50 percent slopes. This is a moderately steep to very steep, excessively drained soil on glacial outwash escarpments, kames, and eskers. Areas of this soil are long and narrow or irregular in shape, and range from 3 to 100 acres in size.

Typically, the surface layer is a black loamy fine sand about 2 inches thick. The subsoil is about 16 inches thick. It is dark brown loamy sand and strong brown gravelly loamy sand in the upper part and yellowish brown very cobbly loamy sand in the lower part. The substratum extends to a depth of 60 inches or more. It is yellowish brown extremely gravelly sand in the upper part and olive brown extremely gravelly coarse sand in the lower part.

Included with this soil in mapping are small areas of Sheepscot and Moosilauke soils in low spots and along drainageways. Also included are areas of Merrimac and Adams soils generally in lower slope positions. These soils make up about 15 percent of the map unit. Also included are some areas of soils that are similar to this Colton soil, but have a surface layer of gravelly loamy sand. Also included are a few areas that have slopes of less than 15 percent, and a few areas that have stones on the surface.

Permeability of this Colton soil is rapid or very rapid above the substratum and very rapid in the substratum. The available water capacity is very low. Depth to bedrock is more than 60 inches. The seasonal high water table is at a depth of more than 6 feet. Potential frost action is low.

Most areas of this soil are wooded. Some areas have been or are mined for sand and gravel. A few areas are used for pasture, and a few areas are used as homesites.

This soil is not suited to cultivated crops, hay, and pasture because of droughtiness, slope, and low natural fertility.

Potential productivity of eastern white pine on this soil is high. Slope is a limitation to use of equipment in forest management and logging operations. Seedling mortality

Figure 6.—This area of Colton loamy fine sand, 8 to 15 percent slopes, is used as a source of sand and gravel for use in construction.

is severe because of droughtiness. Laying out logging roads in adjacent areas that are not as steep is a suitable management practice. Logging roads constructed on the contour, properly installed and sized culverts, and water bars appropriately spaced along the roadway help control erosion.

This soil is poorly suited to urban development. Slope is a severe limitation. On construction sites, quickly establishing a vegetative cover helps control erosion. The soil is a probable source of sand and gravel for use in construction.

This soil is in capability subclass VIIs.

24A—Agawam very fine sandy loam, 0 to 3 percent slopes. This is a nearly level, well drained soil on terraces and glacial outwash plains. Areas of this soil generally are rectangular, and range from 5 to 40 acres in size.

Typically, the surface layer is dark brown very fine sandy loam about 12 inches thick. The subsoil is about 13 inches thick. It is olive brown very fine sandy loam in the upper part and light yellowish brown fine sandy loam in the lower part. The substratum extends to a depth of 60 inches or more. It is variegated, light yellowish brown and light brownish gray fine sand in the upper part and variegated, light yellowish brown and light brownish gray sand in the lower part.

Included with this soil in mapping are small areas of Windsor soils on rises and Ninigret soils in low spots. These soils make up as much as 10 percent of the map unit. Also included are areas of Unadilla and Haven soils, which are similar to this Agawam soil. These soils make up as much as 15 percent of the map unit.

Permeability of this Agawam soil is moderately rapid above the substratum and rapid or very rapid in the substratum. The available water capacity is high. Depth to bedrock is more than 60 inches. The seasonal high water table is at a depth of more than 6 feet. Potential frost action is low.

Most areas of this soil are used for cultivated crops. Some areas are used for pasture. Other areas are used as homesites. A few areas are wooded.

This soil is well suited to corn, grasses, legumes, and vegetable crops. It can be cropped continuously. Under good management including applications of lime and fertilizer, high yields can be obtained. Cover crops and crop residue returned to the soil help maintain soil tilth and organic matter content.

Potential productivity of eastern white pine on this soil is very high. There are few or no limitations to forest management or logging operations.

This soil is suited to urban development. If it is used as sites for septic tank absorption fields ground water pollution is a hazard. The soil readily absorbs but does not adequately filter the effluent because of rapid or very rapid permeability. Careful design and installation of septic tank absorption fields are needed to prevent ground water pollution. The soil is a probable source of sand for use in construction.

This soil is in capability subclass I.

24B—Agawam very fine sandy loam, 3 to 8 percent slopes. This is a gently sloping, well drained soil on terraces and glacial outwash plains. Areas of this soil generally are rectangular, and range from 5 to 40 acres in size.

Typically, the surface layer is dark brown very fine sandy loam about 12 inches thick. The subsoil is about 13 inches thick. It is olive brown very fine sandy loam in the upper part and light yellowish brown fine sandy loam in the lower part. The substratum extends to a depth of 60 inches or more. It is variegated, light yellowish brown and light brownish gray fine sand in the upper part and variegated, light yellowish brown and light brownish gray sand in the lower part.

Included with this soil in mapping are small areas of Windsor soils on rises and Ninigret soils in low spots. Also included are small areas of soils that have short slopes of more than 8 percent. These soils make up as much as 10 percent of the map unit. Soils that are similar to the Agawam soils, such as Unadilla and Haven soils, make up as much as 20 percent of the map unit.

Permeability of this Agawam soil is moderately rapid above the substratum and rapid or very rapid in the substratum. The available water capacity is high. Depth to bedrock is more than 60 inches. The seasonal high water table is at a depth of more than 6 feet. Potential frost action is low.

Most areas of this soil are used for cultivated crops. Some areas are used for hay (fig. 7) or pasture, and some areas are used as homesites. A few areas are wooded.

This soil is suited to corn, grasses, legumes, and vegetable crops. Under good management including applications of lime and fertilizer, high yields can be obtained. Conservation tillage and cultivating on the contour help control erosion. Cover crops, and crop residue returned to the soil help maintain soil tilth and the organic matter content and conserve moisture.

Potential productivity of eastern white pine on this soil is very high. There are few or no limitations to forest management or logging operations.

This soil is suited to urban development. If it is used as sites for septic tank absorption fields, ground water pollution is a hazard. The soil readily absorbs but does not adequately filter the effluent because of rapid or very rapid permeability. Careful design and installation of septic tank absorption fields are needed to prevent ground water pollution. On construction sites, establishing a plant cover helps control erosion. The soil is a probable source of sand for use in construction.

This soil is in capability subclass IIe.

24C—Agawam very fine sandy loam, 8 to 15 percent slopes. This is a strongly sloping, well drained soil on terraces and glacial outwash plains. Areas of this soil are oblong or irregular in shape, and range from 3 to 20 acres in size.

Typically, the surface layer is dark brown very fine sandy loam about 12 inches thick. The subsoil is about 13 inches thick. It is light olive brown very fine sandy loam in the upper part and light yellowish brown fine sandy loam in the lower part. The substratum extends to a depth of 60 inches or more. It is variegated, light yellowish brown and light brownish gray fine sand in the upper part, and variegated, light yellowish brown and light brownish gray sand in the lower part.

Included with this soil in mapping are small areas of Windsor soils on rises and Ninigret soils in low spots. Also included are small areas of soils that have slopes of more than 15 percent. These soils make up as much as 15 percent of the map unit. Soils that are similar to the Agawam soil, such as Unadilla and Haven soils, make up as much as 10 percent of the map unit.

Permeability of this Agawam soil is moderately rapid above the substratum and rapid or very rapid in the substratum. The available water capacity is high. Depth to bedrock is more than 60 inches. The seasonal high water table is at a depth of more than 6 feet. Potential frost action is low.

Most areas of this soil are wooded. Some areas are used for pasture or hay. A few areas are used for cultivated crops, and a few areas are used as homesites.

This soil is poorly suited to cultivated crops and suited to grasses and legumes for hay and pasture. Erosion is a hazard if the soil is used for cultivated crops. Contour farming, cover crops, conservation tillage, diversions, and grasses and legumes included in the cropping system help control erosion. Adding manure and mixing crop residue into the soil provide additional organic matter to help maintain soil tilth and conserve moisture.

Potential productivity of eastern white pine on this soil is very high. There are few limitations to forest management and logging operations. Constructing logging roads on the contour helps control erosion.

Figure 7.—This area of Agawam very fine sandy loam, 3 to 8 percent slopes, is used for hay.

Slope is a limitation to use of this soil for urban development. On construction sites, establishing a vegetative cover helps control erosion. If the soil is used as a site for septic tank absorption fields, ground water pollution is a hazard. The soil readily absorbs but does not adequately filter the effluent because of rapid or very rapid permeability. Careful design and installation of septic tank absorption fields are needed to prevent ground water pollution. The soil is a probable source of sand for use in construction.

This soil is in capability subclass IIIe.

26A—Windsor loamy fine sand, 0 to 3 percent slopes. This is a nearly level, excessively drained soil on glacial outwash plains and terraces. Areas of this soil generally are oblong, and range from 4 to 80 acres in size.

Typically, the surface layer is covered by a well decomposed organic mat 1 inch thick. The surface layer is very dark grayish brown loamy fine sand about 3 inches thick. The subsoil is about 22 inches thick. It is yellowish brown loamy fine sand in the upper part and yellowish brown sand in the lower part. The substratum to a depth of 60 inches or more is light olive brown and brown sand.

Included with this soil in mapping are small areas of Croghan soils in low spots. Also included are small areas of soils that are similar to the Windsor soil, but that have loamy textured bands in the lower part of the substratum. These soils make up as much as 5 percent of the map unit. Caesar soils, which are similar to the

Windsor soil, make up as much as 10 percent of the map unit.

Permeability of this Windsor soil is rapid or very rapid. The available water capacity is low. Depth to bedrock is more than 60 inches. The seasonal high water table generally is at a depth of more than 6 feet. Potential frost action is low.

Many areas of this soil are used for residential, commercial, and industrial development. Some areas are used as sites for cemeteries. Some areas are used as a source of sand. Other areas are used for pasture or hay. A few areas are used for cultivated crops. A few areas are natural woodland or have been planted to pine.

This soil is fairly suited to cultivated crops, hay, and pasture. The main limitations are low natural fertility and droughtiness. Irrigation and applications of lime and fertilizer are needed to improve crop yields. Applying fertilizer at two or three intervals during the growing season increases yields. Cover crops and crop residue returned to the soil help maintain soil tilth and the organic matter content and conserve moisture. The soil warms up and dries out early in spring, and can be cultivated and planted early in the growing season. Use of deep-rooted, drought-tolerant grasses and legumes for hay and pasture helps overcome the low available water capacity.

Potential productivity of eastern white pine on this soil is high. Seedling mortality is high because of droughtiness. There are few or no limitations to forest management or logging operations.

This soil is suited to urban development. If the soil is used as sites for septic tank absorption fields, ground water pollution is a hazard. The soil readily absorbs but does not adequately filter the effluent because of rapid or very rapid permeability. Careful design and installation of septic tank absorption fields are needed to prevent ground water pollution. Lawn grasses and shrubs need to be watered frequently during dry periods in summer. The soil is a probable source of sand for use in construction.

This soil is in capability subclass IIIs.

26B—Windsor loamy fine sand, 3 to 8 percent slopes. This is a gently sloping, excessively drained soil on glacial outwash plains and terraces. Areas of this soil generally are oblong or irregular in shape, and range from 4 to 150 acres in size.

Typically, the surface layer is covered by a well decomposed organic mat 1 inch thick. The surface layer is very dark grayish brown loamy fine sand about 3 inches thick. The subsoil is about 22 inches thick. It is yellowish brown loamy fine sand in the upper part and yellowish brown sand in the lower part. The substratum to a depth of 60 inches or more is light olive brown and brown sand.

Included with this soil in mapping are small areas of Croghan soils in low spots. Also included are small areas of soils that are similar to this Windsor soil, but that have loamy textured bands in the lower part of the substratum. These soils make up as much as 5 percent of the map unit. Caesar soils, which are similar to the Windsor soil, make up as much as 10 percent of the map unit.

Permeability of this Windsor soil is rapid or very rapid. The available water capacity is low. Depth to bedrock is more than 60 inches. The seasonal high water table generally is at a depth of more than 6 feet. Potential frost action is low.

Many areas of this soil are used for residential, commercial, and industrial development. Some areas are used as sites for cemeteries. Some areas are used as a source of sand. Other areas are used for pasture or hay. A few areas are used for cultivated crops. A few areas are natural woodland or have been planted to pine.

This soil is fairly suited to cultivated crops, hay, and pasture. The main limitations are low natural fertility and droughtiness. Irrigation and applications of lime and fertilizer are needed to improve crop yields. Applying fertilizer at two or three intervals during the growing season increases yields. Cover crops and crop residue returned to the soil help maintain soil tilth and the organic matter content and conserve moisture. The soil warms up and dries out early in spring, and can be cultivated and planted early in the growing season. Use of deep-rooted, drought-tolerant grasses and legumes for hay and pasture helps overcome the low available water capacity.

Potential productivity of eastern white pine on this soil is high. Seedling mortality is high because of droughtiness. There are few or no limitations to forest management or logging operations.

This soil is suited to urban development. Slope is a moderate limitation to industrial or commercial development, and consequently land grading generally is needed. If the soil is used as sites for septic tank absorption fields, ground water pollution is a hazard. The soil readily absorbs but does not adequately filter the effluent because of rapid or very rapid permeability. Careful design and installation of septic tank absorption fields are needed to prevent ground water pollution. Lawn grasses and shrubs need to be watered frequently during dry periods in summer. The soil is a probable source of sand for use in construction.

The soil is in capability subclass IIIs.

26C—Windsor loamy fine sand, 8 to 15 percent slopes. This is a strongly sloping, excessively drained soil on glacial outwash plains, kames, and terraces. Areas of this soil are long and narrow or irregular in shape, and range from 3 to 40 acres in size.

Typically, the surface layer is covered by a well decomposed organic mat 1 inch thick. The surface layer is very dark grayish brown loamy fine sand about 3 inches thick. The subsoil is about 22 inches thick. It is

yellowish brown loamy fine sand in the upper part and yellowish brown sand in the lower part. The substratum to a depth of 60 inches or more is light olive brown and brown sand.

Included with this soil in mapping are small areas of Croghan soils in low spots. Also included are small areas of soils that are similar to this Windsor soil, but that have loamy bands or layers in the lower part of the substratum. These soils make up as much as 5 percent of the map unit. Caesar soils, which are similar to the Windsor soil, make up as much as 10 percent of the map unit. Also included are a few areas of soils that have short slopes of more than 15 percent.

Permeability of this Windsor soil is rapid or very rapid. The available water capacity is low. Depth to bedrock is more than 60 inches. The seasonal high water table generally is at a depth of more than 6 feet. Potential frost action is low.

Most areas of this soil are natural woodland or have been planted to pine. Some areas are used for residential development, as sites for cemeteries, or as a source of sand. Other areas are used for pasture or hay. A few areas are used for cultivated crops.

This soil is poorly suited to cultivated crops, hay, and pasture. Low natural fertility, droughtiness, and slope limit the soil for these uses. Irrigation and applications of lime and fertilizer are needed to improve crop yields. Cover crops and crop residue returned to the soil help maintain soil tilth and organic matter content and conserve moisture. Use of deep-rooted, drought-tolerant grasses and legumes for hay and pasture help overcome the low available water capacity. The soil warms up and dries out early in spring, and can be cultivated and planted early in the growing season. Conservation tillage, diversions, contour farming, and grasses and legumes included in the cropping system help control erosion.

Potential productivity of eastern white pine on this soil is high. Seedling mortality is high because of droughtiness. There are few limitations to forest management or logging operations. Constructing logging roads on the contour helps control erosion.

This soil is suited to urban development. Slope is a limitation. Land grading generally is needed. If the soil is used as sites for septic tank absorption fields, ground water pollution is a hazard. The soil readily absorbs but does not adequately filter the effluent because of rapid or very rapid permeability. Careful design and installation of septic tank absorption fields are needed to prevent ground water pollution. Lawn grasses and shrubs need to be watered frequently during dry periods in summer. On construction sites, quickly establishing a vegetative cover helps control erosion. The soil is a probable source of sand for use in construction.

This soil is in capability subclass IVs.

26E—Windsor loamy fine sand, 15 to 50 percent slopes. This is a moderately steep to very steep, excessively drained soil on glacial outwash plains, kames, and terrace escarpments. Areas of this soil are oblong or irregular in shape, and range from 4 to 80 acres in size.

Typically, the surface layer is covered by a well decomposed organic mat 1 inch thick. The surface layer is very dark grayish brown loamy fine sand about 3 inches thick. The subsoil is about 22 inches thick. It is yellowish brown loamy fine sand in the upper part and yellowish brown sand in the lower part. The substratum to a depth of 60 inches or more is light olive brown and brown sand.

Included with this soil in mapping are small areas of Croghan and Naumburg soils in low spots and along drainageways. Also included are small areas of soils that are similar to this Windsor soil, except that they have loamy bands or layers in the lower part of the substratum. These soils make up as much as 5 percent of the map unit. Caesar soils, which are similar to this Windsor soil, make up as much as 10 percent of the map unit. Also included are a few areas of soils that have slopes of less than 15 percent and a few areas that have stones on the surface.

Permeability of this Windsor soil is rapid or very rapid. The available water capacity is low. Depth to bedrock is more than 60 inches. The seasonal high water table generally is at a depth of more than 6 feet. Potential frost action is low.

Most areas of this soil are wooded. Some areas are used as a source of sand. A few areas are used as homesites. A few areas are used for pasture.

This soil is not suited to cultivated crops, hay, and pasture because of low natural fertility, droughtiness, and slope.

Potential productivity of eastern white pine on this soil is high. Seedling mortality is high because of droughtiness. Slope is a limitation to forest management and logging operations. Laying out logging roads in adjacent areas that are not as steep is a suitable management practice. Logging roads constructed on the contour, properly sized and installed culverts, and water bars spaced appropriately along the roadway help control erosion.

This soil is poorly suited to urban development. Slope is a severe limitation. Land grading generally is needed. On construction sites quickly establishing a vegetative cover helps control erosion. The soil is a probable source of sand for use in construction.

This soil is in capability subclass VIIs.

30A—Unadilla very fine sandy loam, 0 to 3 percent slopes. This is a nearly level, well drained soil mainly on terraces along the Connecticut River and also on old glacial lake plains. Areas of this soil generally are broad and rectangular, and range from 10 to 120 acres in size.

Typically, the surface layer is dark brown very fine sandy loam about 8 inches thick. The subsoil is about 12

inches thick. It is yellowish brown very fine sandy loam in the upper part and light olive brown very fine sandy loam in the lower part. The substratum to a depth of 60 inches or more is olive very fine sandy loam in the upper part and olive loamy very fine sand in the lower part.

Included with this soil in mapping are small areas of Windsor soils on slight rises and Scio soils in low spots. Also included are small areas of soils that have short slopes of more than 3 percent. These soils make up as much as 10 percent of the map unit. Agawam soils, which are similar to this Unadilla soil, make up as much as 15 percent of the map unit.

Permeability of this Unadilla soil is moderate above the substratum and in the upper part of the substratum and moderately rapid to rapid in the lower part of the substratum. The available water capacity is high. Depth to bedrock is more than 60 inches. The seasonal high water table is at a depth of more than 6 feet. Potential frost action is high.

Most areas of this soil are used for cultivated crops. A few areas are used for hay or pasture. A few areas are used as homesites.

This soil is well suited to corn, grasses, legumes, and vegetable crops. It can be cropped continuously. Under good management including applications of lime and fertilizer, high yields can be obtained. Cover crops and crop residue returned to the soil help maintain soil tilth and the organic matter content. Maintaining sod filter strips along terrace escarpment borders helps prevent gully erosion.

Potential productivity of eastern white pine on this soil is very high. There are few or no limitations to forest management or logging operations.

This soil is suited to urban development. Using coarse grained subgrade or base material helps prevent the damage to local roads and streets caused by frost heave. Slopes or cutbanks of excavated areas are unstable.

This soil is in capability subclass I.

30B—Unadilla very fine sandy loam, 3 to 8 percent slopes. This is a gently sloping well drained soil mainly on terraces along the Connecticut River and also on old glacial lake plains. Areas of this soil generally are oblong, and range from 4 to 50 acres in size.

Typically, the surface layer is dark brown very fine sandy loam about 8 inches thick. The subsoil is about 12 inches thick. It is yellowish brown very fine sandy loam in the upper part and light olive brown very fine sandy loam in the lower part. The substratum to a depth of 60 inches or more is olive very fine sandy loam in the upper part and olive loamy very fine sand in the lower part.

Included with this soil in mapping are small areas of Windsor soils on slight rises and Scio soils in low spots. Also included are small areas of soils that have short slopes of more than 8 percent. These soils make up as much as 5 percent of the map unit. Agawam soils, which are similar to the Unadilla soil, make up as much as 15 percent of the map unit.

Permeability of this Unadilla soil is moderate above the substratum and in the upper part of the substratum and moderately rapid or rapid in the lower part of the substratum. The available water capacity is high. Depth to bedrock is more than 60 inches. The seasonal high water table is at a depth of more than 6 feet. Potential frost action is high.

Most areas of this soil are used for cultivated crops. A few areas are used for hay or pasture, and a few areas are used as homesites.

This soil is suited to corn, grasses, legumes, and vegetable crops. Under good management including applications of lime and fertilizer, high yields can be obtained. Cover crops and crop residue returned to the soil help maintain soil tilth and the organic matter content. Conservation tillage and contour farming help control erosion. Maintaining sod filter strips along terrace escarpment borders helps prevent gully erosion.

Potential productivity of eastern white pine on this soil is very high. There are few or no limitations to forest management or logging operations.

This soil is suited to urban development. Using coarse grained subgrade or base material helps prevent the damage to local roads and streets caused by frost heave. On construction sites, establishing plant cover helps control erosion. Slopes or cutbanks of excavated areas are unstable.

This soil is in capability subclass IIe.

30C—Unadilla very fine sandy loam, 8 to 15 percent slopes. This is a strongly sloping, well drained soil mainly on terraces along the Connecticut River and also on old glacial lake plains. Areas of this soil generally are oblong or irregular in shape, and range from 3 to 20 acres in size.

Typically, the surface layer is dark brown very fine sandy loam about 8 inches thick. The subsoil is about 12 inches thick. It is yellowish brown very fine sandy loam in the upper part and light olive brown very fine sandy loam in the lower part. The substratum extends to a depth of 60 inches or more. It is olive very fine sandy loam in the upper part and olive loamy very fine sand in the lower part.

Included with this soil in mapping are small areas of Windsor soils on slight rises and Scio soils in low spots. Also included are small areas of soils that have short slopes of more than 15 percent. These soils make up as much as 10 percent of this map unit. Agawam soils, which are similar to the Unadilla soil, make up as much as 20 percent of the map unit.

Permeability of this Unadilla soil is moderate above the substratum and in the upper part of the substratum and moderately rapid or rapid in the lower part of the substratum. The available water capacity is high. Depth to bedrock is more than 60 inches. The seasonal high

water table is at a depth of more than 6 feet. Potential frost action is high.

Most areas of this soil are used for hay. Some areas are used for pasture or are wooded. A few areas are used as homesites.

This soil is poorly suited to cultivated crops because erosion is a severe hazard. It is suited to grasses and legumes. Under good management including applications of lime and fertilizer, high yields can be obtained. In pasture management, deferred grazing, proper stocking rates within carrying capacity, and rotation grazing help improve pasture productivity.

Potential productivity of eastern white pine on this soil is very high. Logging roads constructed on the contour, use of water bars in roadways, and properly sized and installed culverts help control erosion.

Slope, the hazard of erosion, and frost heave are limitations to use of this soil for urban development. Use of coarser grained subgrade or base material helps prevent the damage to local roads and streets caused by frost heave. On construction sites, quickly establishing plant cover helps control erosion. Slopes or cutbanks of excavated areas are unstable.

This soil is in capability subclass IIIe.

36A—Adams loamy sand, 0 to 3 percent slopes. This is a nearly level, excessively drained soil on outwash plains and terraces. Areas of this soil are somewhat oval or irregular in shape, and range from 4 to 20 acres in size.

Typically, the surface layer is very dark grayish brown loamy sand about 6 inches thick. The subsurface layer is grayish brown sand about 2 inches thick. The subsoil is about 11 inches thick. It is very dusky red and dark reddish brown sand in the upper part and yellowish brown sand in the lower part. The substratum extends to a depth of 60 inches or more. It is brownish yellow sand in the upper part and light yellowish brown coarse sand in the lower part.

Included with this soil in mapping are small areas of Croghan and Naumburg soils in low spots. These soils make up about 5 percent of the map unit. Also included are some areas of soils that are similar to this Adams soil but that are fine sandy loam in the upper part of the subsoil or have some firm, cemented soil material in the subsoil.

Permeability of this Adams soil is rapid above the substratum and very rapid in the substratum. The available water capacity is very low. Depth to bedrock is more than 60 inches. The seasonal high water table is at a depth of more than 6 feet. Potential frost action is low.

This soil is in a variety of land uses. Some areas are woodland. Other areas are used for residential development, pasture, or hay. Also, a few areas are used for cultivated crops, as a source of sand, and as sites for cemeteries.

This soil is fairly suited to corn, grasses, legumes, and vegetable crops because of droughtiness and low fertility. Irrigation and applications of lime and fertilizer are needed to improve crop yields. The soil warms up and dries out early in spring, and can be cultivated and planted early in the growing season. Cover crops and crop residue returned to the soil help maintain the organic matter content and soil tilth and conserve moisture.

Potential productivity of red pine on this soil is high. Mortality of natural seedlings or planted stock is high because of droughtiness. There are few or no limitations to forest management or logging operations.

This soil is suited to urban development. Because of nearly level slopes and ease of shaping or excavating, it is suited to residential, commercial, or industrial development. If the soil is used as sites for septic tank absorption fields, ground water pollution is a hazard. The soil readily absorbs but does not adequately filter the effluent because of rapid or very rapid permeability. Careful design and installation of septic tank absorption fields are needed to prevent ground water pollution. Lawn grasses and shrubs need to be watered frequently during dry periods in summer. The soil is a probable source of sand for use in construction.

This soil is in capability subclass IIIs.

36B—Adams loamy sand, 3 to 8 percent slopes. This is a gently sloping, excessively drained soil on outwash plains and terraces. Areas of this soil are oblong or irregular in shape, and range from 4 to 40 acres in size.

Typically, the surface layer is very dark grayish brown loamy sand about 6 inches thick. The subsurface layer is grayish brown sand about 2 inches thick. The subsoil is about 11 inches thick. It is very dusky red and dark reddish brown sand in the upper part and yellowish brown sand in the lower part. The substratum extends to a depth of 60 inches or more. It is brownish yellow sand in the upper part and light yellowish brown coarse sand in the lower part.

Included with this soil in mapping are small areas of Croghan and Naumburg soils in low spots. These soils make up about 5 percent of the map unit. Also included are some areas of soils that are similar to this Adams soil, but that are fine sandy loam in the upper part of the subsoil or have some firm, cemented soil material in the subsoil.

Permeability of this Adams soil is rapid above the substratum and very rapid in the substratum. The available water capacity is very low. Depth to bedrock is more than 60 inches. The seasonal high water table is at a depth of more than 6 feet. Potential frost action is low.

Most areas of this soil are wooded. Some areas are used for residential development. A few areas are used for hay or pasture. A few areas are used as sites for cemeteries or as a source of sand.

This soil is fairly suited to corn, grasses, legumes, and vegetable crops because of droughtiness and low fertility. Irrigation and applications of lime and fertilizer are needed to improve crop yields. The soil warms up and dries out early in spring and can be cultivated and planted early in the growing season. Cover crops and crop residue returned to the soil help maintain the organic matter content and soil tilth and conserve moisture.

Potential productivity of red pine on this soil is high. Mortality of natural seedlings or planted stock is high because of droughtiness. There are few or no limitations to forest management or logging operations.

This soil is suited to urban development. Slope is a limitation to commercial or industrial development. Land grading and shaping generally is needed. If the soil is used as sites for septic tank absorption fields, ground water pollution is a hazard. The soil readily absorbs but does not adequately filter the effluent because of very rapid permeability. Careful design and installation of septic tank absorption fields are needed to prevent ground water pollution. Lawn grasses and shrubs need to be watered frequently during dry periods in summer. The soil is a probable source of sand for use in construction.

This soil is in capability subclass IIIs.

36C—Adams loamy sand, 8 to 15 percent slopes. This is a strongly sloping, excessively drained soil on outwash plains, kames, and terraces. Areas of this soil generally are irregular in shape or somewhat oval, and range from 4 to 30 acres in size.

Typically, the surface layer is very dark grayish brown loamy sand about 6 inches thick. The subsurface layer is grayish brown sand about 2 inches thick. The subsoil is about 11 inches thick. It is very dusky red and dark reddish brown sand in the upper part and yellowish brown sand in the lower part. The substratum extends to a depth of 60 inches or more. It is brownish yellow sand in the upper part and light yellowish brown coarse sand in the lower part.

Included with this soil in mapping are small areas of Croghan and Naumburg soils in low spots. These soils make up about 5 percent of the map unit. Also included are some areas of soils that are similar to this Adams soil, but that are fine sandy loam in the upper part of the subsoil or have some firm, cemented soil material in the subsoil.

Permeability of this Adams soil is rapid above the substratum and very rapid in the substratum. The available water capacity is very low. Depth to bedrock is more than 60 inches. The seasonal high water table is at a depth of more than 6 feet. Potential frost action is low.

Most areas of this soil are wooded. A few areas are used for unimproved pasture, for residential development, or as a source of sand.

This soil is poorly suited to cultivated crops, hay, and pasture, because of droughtiness, slope, and low fertility. Irrigation and applications of lime and fertilizer are needed to improve crop yields. Cover crops and crop residue returned to the soil help maintain soil tilth and the organic matter content and conserve moisture. Conservation tillage and contour farming help control erosion.

Potential productivity of red pine on this soil is high. There are few limitations to forest management and logging operations. Constructing logging roads on the contour helps control erosion.

This soil is suited to urban development. Slope is a limitation for homesites and commercial and industrial development. The soil can be excavated and shaped easily, but erosion is a hazard. On construction sites, establishing a vegetative cover helps control erosion. If the soil is used as sites for septic tank absorption fields, ground water pollution is a hazard. The soil readily absorbs but does not adequately filter the effluent because of very rapid permeability. Careful design and installation of septic tank absorption fields are needed to prevent ground water pollution. Lawn grasses and shrubs need to be watered frequently during dry periods in summer. The soil is a probable source of sand for use in construction.

This soil is in capability subclass IVs.

36E—Adams loamy sand, 15 to 50 percent slopes. This is a moderately steep to very steep, excessively drained soil on glacial outwash escarpments, eskers, and kames. Areas of this soil generally are long and narrow, or irregular in shape, and range from 5 to 100 acres in size.

Typically, the surface layer is very dark grayish brown loamy sand about 6 inches thick. The subsurface layer is grayish brown sand about 2 inches thick. The subsoil is about 11 inches thick. It is very dusky red and dark reddish brown sand in the upper part and yellowish brown sand in the lower part. The substratum extends to a depth of 60 inches or more. It is brownish yellow sand in the upper part and light yellowish brown coarse sand in the lower part.

Included with this soil in mapping are small areas of soils that are similar to the Adams soil but that have silts and very fine sand in the lower part of the substratum. Also included are areas of soils that have slopes of less than 15 percent and areas that have stones on the surface. Also included are small areas of Croghan and Naumburg soils in low spots and along drainageways. These areas make up as much as 10 percent of the map unit.

Permeability of this Adams soil is rapid above the substratum and very rapid in the substratum. The available water capacity is very low. Depth to bedrock is more than 60 inches. The seasonal high water table is at a depth of more than 6 feet. Potential frost action is low.

This soil is not suited to farming because of moderately steep to very steep slopes, droughtiness, and the hazard of erosion. It is poorly suited to urban development. The main limitation is slope.

Potential productivity of red pine on this soil is high. Slope is a limitation to forest management and logging operations. Laying out logging roads in adjacent areas that are not as steep is a suitable management practice. Constructing logging roads on the contour helps control erosion. The soil is a probable source of sand for use in construction.

This soil is in capability subclass VIIe.

56B—Becket fine sandy loam, 3 to 8 percent slopes. This is a gently sloping, well drained soil on crests of smooth-sided hills of glaciated uplands, mainly in the southern part of the county. Areas of this soil generally are oblong, and range from 5 to 30 acres in size.

Typically, the surface layer is very dark brown fine sandy loam about 8 inches thick. The subsoil is about 23 inches thick. It is, from the upper part proceeding downward, reddish brown fine sandy loam, strong brown fine sandy loam, yellowish brown gravelly sandy loam, and light olive brown gravelly sandy loam. The substratum extends to a depth of 60 inches or more. It is olive gravelly sandy loam and olive yellow sand, and has a composite texture of gravelly loamy sand. The substratum is firm and brittle.

Included with this soil in mapping are small areas of Skerry, Pillsbury, Monadnock, Berkshire, and Tunbridge soils. Skerry and Pillsbury soils are in low spots. Monadnock and Berkshire soils generally are on uneven side slopes. Tunbridge soils generally are on knolls or high spots. These soils make up as much as 20 percent of the map unit. Marlow soils, which are similar to the Becket soil, make up as much as 10 percent of the map unit.

Permeability of this Becket soil is moderate above the substratum and slow or moderately slow in the compacted substratum, or hardpan. The available water capacity is moderate. The dense hardpan is at a depth of 18 to 36 inches, and limits the root zone of plants. The seasonal high water table is at a depth of 2 to 3.5 feet in March and April. Depth to bedrock generally is more than 60 inches. Potential frost action is moderate.

Most areas of this soil are used for hay. Some areas are used for pasture or cultivated crops. Some areas that had been cleared of stones and trees have reverted naturally to woodland or have been planted to pine. A few areas are used as homesites.

This soil is suited to corn, grasses, legumes, and orchards. Under good management including applications of lime and fertilizer, high yields can be obtained. Stripcropping, contour farming, conservation tillage, diversions, and grasses and legumes included in the cropping system help to control erosion. Cover crops and crop residue returned to the soil help to maintain soil tilth and the organic matter content. In some areas tile drainage is needed to remove excess water from seep spots, which are common on this soil. In pasture management, deferred grazing, stocking rates within carrying capacity, and rotation grazing help improve pasture productivity.

Potential productivity of eastern white pine on this soil is very high. There are few limitations to forestry management and logging operations. Scheduling logging operations during drier periods or in winter when the ground is frozen helps prevent ruts on woodland access roads and skid trails.

Slow permeability in the hardpan and the perched seasonal high water table in spring limit use of this soil for urban development. Special design and installation are needed for septic tank absorption fields. Larger absorption beds and raised absorption fields are common designs used on this soil. Curtain drains around house foundations and sealed foundation walls help prevent wet basements. On construction sites, establishing a vegetative cover helps control erosion. Using coarser grained subgrade or base material helps prevent the damage to local roads and streets caused by frost heave.

This soil is in capability subclass IIe.

56C—Becket fine sandy loam, 8 to 15 percent slopes. This is a strongly sloping, well drained soil on crests and side slopes of smooth-sided hills of glaciated uplands, mainly in the southern part of the county. Areas of this soil generally are oblong, and range from 5 to 30 acres in size.

Typically, the surface layer is very dark brown fine sandy loam about 8 inches thick. The subsoil is about 23 inches thick. It is, proceeding downward, reddish brown fine sandy loam, strong brown fine sandy loam, yellowish brown gravelly sandy loam, and light olive brown gravelly sandy loam. The substratum extends to a depth of 60 inches or more. It is olive gravelly sandy loam and olive yellow sand, and has a composite texture of gravelly loamy sand. It is firm and brittle.

Included with this soil in mapping are small areas of Skerry, Pillsbury, Monadnock, Berkshire, and Tunbridge soils. Skerry and Pillsbury soils are in low spots. Monadnock and Berkshire soils generally are on uneven side slopes. Tunbridge soils generally are on knolls or high spots. These soils make up as much as 20 percent of the map unit. Marlow soils, which are similar to this Becket soil, make up as much as 10 percent of the map unit.

Permeability of this Becket soil is moderate above the substratum and slow or moderately slow in the compacted substratum, or hardpan. The available water capacity is moderate. The dense hardpan is at a depth of 18 to 36 inches, and limits the root zone. The seasonal high water table is at a depth of 2 to 3.5 feet in

March and April. Depth to bedrock generally is more than 5 feet. Potential frost action is moderate.

Most areas of this soil are used for hay. Some areas are used for pasture or cultivated crops. Some areas that had been cleared of stones and trees have reverted naturally to woodland or have been planted to pine. A few areas are used as homesites.

This soil is poorly suited to cultivated crops. Slope is a limitation. Stripcropping, contour farming, conservation tillage, diversions, and grasses and legumes included in the cropping system help control erosion. Cover crops and crop residue returned to the soil help maintain soil tilth and the organic matter content. In some areas tile drainage is needed to remove excess water from seep spots, which are common on this soil.

This soil is suited to hay, pasture, and orchards. Good yields of hay can be obtained under a high level management including timely applications of lime and fertilizer. In pasture management, deferred grazing, stocking rates within carrying capacity, and rotation grazing help improve pasture productivity.

Potential productivity of eastern white pine on this soil is very high. There are few limitations to forest management and logging operations. Scheduling logging operations during drier periods or in winter when the ground is frozen helps prevent ruts on woodland access roads and skid trails.

Slope, slow permeability of the hardpan, and the perched seasonal high water table in spring limit use of this soil for urban development. Special design and installation are needed for septic tank absorption fields. Larger absorption beds and raised absorption fields are common designs used on this soil. Curtain drains around house foundations and sealed foundation walls help prevent wet basements. On construction sites, establishing a vegetative cover helps control erosion. Using coarser grained subgrade or base material helps prevent the damage to local roads and streets caused by frost heave.

This soil is in capability subclass IIIe.

57B—Becket fine sandy loam, 3 to 8 percent slopes, very stony. This is a gently sloping, well drained soil on crests of smooth-sided hills of glaciated uplands in the southern part of the county. Areas of this soil are generally oblong, and range from 4 to 20 acres in size. Stones, on average, 20 inches in diameter are 10 to 50 feet apart and cover 0.5 to 3 percent of the surface.

Typically, the surface is covered by a slightly decomposed leaf and pine needle mat about 2 inches thick. The subsurface layer is pinkish gray fine sandy loam about 2 inches thick. The subsoil is about 29 inches thick. It is, proceeding downward, dark reddish brown fine sandy loam, reddish brown fine sandy loam, strong brown fine sandy loam, yellowish brown gravelly sandy loam, and light olive brown gravelly sandy loam. The substratum to a depth of 60 inches or more is olive gravelly sandy loam and olive yellow sand, and has a composite texture of gravelly loamy sand. It is firm.

Included with this soil in mapping are small areas of Skerry, Pillsbury, Monadnock, Berkshire, and Tunbridge soils. Skerry and Pillsbury soils are in low spots. Monadnock and Berkshire soils generally are on uneven side slopes. Tunbridge soils generally are on knolls or high spots. These soils make up as much as 15 percent of the map unit. Marlow soils, which are similar to this Becket soil, make up as much as 10 percent of the map unit. Also included are small areas of soils that have an extremely stony or bouldery surface layer.

Permeability of this Beckert soil is moderate above the substratum and slow or moderately slow in the compacted substratum, or hardpan. The available water capacity is moderate. The dense hardpan is at a depth of 18 to 36 inches and limits the root zone. The seasonal high water table is at a depth of 2 to 3.5 feet in March and April. Depth to bedrock generally is more than 60 inches. Potential frost action is moderate.

Most areas of this soil are wooded. A few areas are used for unimproved pasture or as homesites.

This soil is not suited to cultivated crops or hay and is poorly suited to pasture, because of surface stones. Removal of surface stones and trees will improve the suitability of this soil for agricultural use.

Potential productivity of eastern white pine on this soil is very high. There are few limitations to forest management and logging operations. Scheduling logging operations during drier periods or in winter when the ground is frozen helps prevent ruts on woodland access roads and skid trails.

Slow permeability in the hardpan, stone cover, and the perched seasonal high water table in spring limit use of this soil for urban development. Special design and installation are needed for septic tank absorption fields. Larger absorption beds and raised absorption fields are common designs used on this soil. Curtain drains around house foundations and sealed foundation walls help prevent wet basements. Stone removal and land grading increase construction costs. On construction sites, establishing vegetative cover helps control erosion. Using coarser grained subgrade or base material helps prevent the damage to local roads and streets caused by frost heave.

This soil is in capability subclass VIs.

57C—Becket fine sandy loam, 8 to 15 percent slopes, very stony. This is a strongly sloping, well drained soil on crests and side slopes of smooth-sided hills of glaciated uplands in the southern part of the county. Areas of this soil generally are oblong or irregular in shape, and range from 5 to 50 acres in size. Stones, on average, 20 inches in diameter are 10 to 50 feet apart and cover 0.5 to 3 percent of the surface.

Typically, the surface is covered by a slightly decomposed leaf and pine needle mat about 2 inches

thick. The subsurface layer is pinkish gray fine sandy loam about 2 inches thick. The subsoil is about 29 inches thick. It is, proceeding downward, dark reddish brown fine sandy loam, reddish brown fine sandy loam, strong brown fine sandy loam, yellowish brown gravelly sandy loam, and light olive brown gravelly sandy loam. The substratum extends to a depth of 60 inches or more. It is olive gravelly sandy loam and olive yellow sand, and has a composite texture of gravelly loamy sand. It is firm.

Included with this soil in mapping are small areas of Skerry, Pillsbury, Monadnock, Berkshire, and Tunbridge soils. Skerry and Pillsbury soils are in low spots. Monadnock and Berkshire soils are generally on uneven side slopes. Tunbridge soils are generally on knolls or high spots. These soils make up as much as 15 percent of the map unit. Marlow soils, which are similar to this Becket soil, make up as much as 10 percent of the map unit. Also included are small areas of soils that have an extremely stony or bouldery surface layer.

Permeability of this Becket soil is moderate above the substratum and slow or moderately slow in the compacted substratum, or hardpan. The available water capacity is moderate. The dense hardpan is at a depth of 18 to 36 inches, and limits the root zone. The seasonal high water table is at a depth of 2 to 3.5 feet in March and April. Depth to bedrock is generally more than 60 inches. Potential frost action is moderate.

Most areas of this soil are wooded. A few areas are used for unimproved pasture or as homesites.

This soil is not suited to cultivated crops or hay and is poorly suited to pasture, because of surface stones. Removing surface stones and clearing trees will improve the suitability of this soil for agricultural uses.

Potential productivity of eastern white pine on this soil is very high. There are few limitations to forest management and logging operations. Constructing logging roads on the contour helps control erosion. Scheduling logging operations during drier periods or in winter when the ground is frozen helps prevent ruts on woodland access roads and skid trails.

Slow permeability in the hardpan, slope, stone cover, and the perched seasonal high water table in spring limit use of this soil for urban development. Special design and installation are needed for septic tank absorption fields. Larger absorption beds and raised absorption fields are common designs used on this soil. Curtain drains around house foundations, sealed foundation walls, and interceptor drains upslope from the house foundation help prevent wet basements. Stone removal and land grading increases construction costs. On construction sites, establishing vegetative cover helps control erosion. Using coarser grained subgrade or base material helps prevent the damage to local roads and streets caused by frost heave.

This soil is in capability subclass VIs.

57D—Becket fine sandy loam, 15 to 25 percent slopes, very stony. This is a moderately steep, well drained soil on side slopes of smooth-sided hills of glaciated uplands in the southern part of the county. Areas of this soil generally are long and narrow, and range from 4 to 30 acres in size. Stones, on average, 20 inches in diameter are 10 to 50 feet apart and cover 0.5 to 3 percent of the surface.

Typically, the surface is covered by a slightly decomposed leaf and pine needle mat about 2 inches thick. The subsurface layer is pinkish gray fine sandy loam about 2 inches thick. The subsoil is about 29 inches thick. It is, proceeding downward, dark reddish brown fine sandy loam, reddish brown fine sandy loam, strong brown fine sandy loam, yellowish brown gravelly sandy loam, and light olive brown gravelly sandy loam. The substratum extends to a depth of 60 inches or more. It is olive gravelly sandy loam and olive yellow sand, and has a composite texture of gravelly loamy sand. It is firm.

Included with this soil in mapping are small areas of Skerry, Pillsbury, Monadnock, Berkshire, and Tunbridge soils. Skerry and Pillsbury soils are in low spots and along drainageways. Monadnock and Berkshire soils are generally on uneven side slopes. Tunbridge soils are generally on knolls or high spots. These soils make up as much as 15 percent of the map unit. Marlow soils, which are similar to this Becket soil, make up as much as 10 percent of the map unit. Also included are small areas that have an extremely stony or bouldery surface layer and areas that have slopes of more than 15 percent.

Permeability of this Becket soil is moderate above the substratum and slow or moderately slow in the compacted substratum, or hardpan. The available water capacity is moderate. The dense hardpan is at a depth of 18 to 36 inches, and limits the rooting depth of plants. The seasonal high water table is at a depth of 2 to 3.5 feet in March and April. Depth to bedrock is generally more than 60 inches. Potential frost action is moderate.

Most areas of this soil are wooded. A few areas are used as homesites or for unimproved pasture.

This soil is not suited to cultivated crops or hay and is poorly suited to pasture, because of surface stones and slope. Removal of surface stones and trees will improve the suitability of the soil for pasture.

Potential productivity of eastern white pine on this soil is very high. Slope limits use of equipment. Erosion is a moderate hazard. Logging roads constructed on the contour, properly sized and installed culverts, and water bars at appropriate distances along the roadway help control erosion. Scheduling logging operations during drier periods or in winter when the ground is frozen helps prevent ruts on woodland access roads and skid trails.

Slow permeability in the hardpan, slope, and the perched seasonal high water table in spring are severe limitations to use of this soil for urban development. On

construction sites, quickly establishing a vegetative cover helps control erosion. Using coarser grained subgrade or base material helps prevent the damage to local roads and streets caused by frost heave.

This soil is in capability subclass VIs.

60B—Tunbridge-Berkshire complex, 3 to 8 percent slopes, very stony. This map unit consists of gently sloping soils generally on crests of hills and ridges or on plains of the glaciated uplands. The soils are in such an intricate pattern on the landscape that they could not be mapped separately at the scale selected for mapping. The unit is about 50 percent well drained, moderately deep Tunbridge soil, 30 percent well drained, very deep Berkshire soil, and 20 percent other soils. The Tunbridge soil generally is in slightly higher positions on the landscape than the Berkshire soil. Areas of the map unit generally are oblong or irregular in shape, and range from 3 to 30 acres in size. In most areas stones, on average, 20 inches in diameter are 10 to 50 apart and cover 0.5 to 3 percent of the surface.

Typically, the surface layer of the Tunbridge soil is black fine sandy loam about 4 inches thick. The subsoil is about 22 inches thick. It is, proceeding downward, yellowish red fine sandy loam, strong brown gravelly fine sandy loam, yellowish brown gravelly fine sandy loam, and brownish yellow gravelly fine sandy loam. Mica schist bedrock is at a depth of 26 inches.

Typically, the surface layer of the Berkshire soil is very dark grayish brown fine sandy loam about 3 inches thick. The subsoil is about 32 inches thick. It is yellowish red fine sandy loam, dark brown fine sandy loam, yellowish brown fine sandy loam, and light olive brown gravelly fine sandy loam. The substratum to a depth of 60 inches or more is grayish brown gravelly sandy loam.

Included with this complex in mapping are small areas of Monadnock, Sunapee, Lyme, Lyman, and Marlow soils. Sunapee and Lyme soils are in low spots, Lyman soils generally are on the tops of rises and knolls, and Marlow and Monadnock soils are on side slopes. Also included are small areas of exposed bedrock and small areas of soils that are very shallow over bedrock. A few areas have been cleared of surface stones.

Permeability of the Tunbridge and Berkshire soils is moderate or moderately rapid. The available water capacity is moderate in the Tunbridge soil and high in the Berkshire soil. Depth to bedrock is 20 to 40 inches in the Tunbridge soil and generally more than 60 inches in the Berkshire soil. The seasonal high water table in both soils is at a depth of more than 6 feet. Potential frost action is moderate in both soils.

Most areas of the soils in this complex are wooded. A few areas that have been cleared of surface stones are used for hay. A few areas are used for pasture or as homesites.

These soils generally are not suited to cultivated crops and hay and are poorly suited to pasture. The main limitation to these uses is surface stones. Included bedrock exposures and, on Lyman soils, shallow depth to bedrock limit use of the soils for farming. A few areas have been cleared of stones and do not have inclusions of bedrock exposures or Lyman soils. In these areas the soils are fairly suited to some agricultural uses.

Potential productivity of eastern white pine is very high on the Tunbridge soil and high on the Berkshire soil. There are few limitations to most forest management and logging operations. In some areas inclusions of bedrock exposures or small wet areas in low depressions limit use of some equipment.

Depth to bedrock and stones on the surface limit use of these soils for urban development. The Berkshire soil is suitable for use as homesites and as sites for septic tank absorption fields. Areas of the Berkshire soil large enough for homesites and septic tank absorption fields need to be found in this complex. Generally, the larger the lot the more likely it has a suitable building site. On the inclusions, shallowness to bedrock in Lyman soils, the seasonal high water table in Lyme soils, and areas of exposed bedrock are severe limitations to urban development.

These soils are in capability subclass VIs.

60C—Tunbridge-Berkshire complex, 8 to 15 percent slopes, very stony. This map unit consists of strongly sloping soils generally on crests of hills and ridges or on plains of glaciated uplands. The soils are in such an intricate pattern on the landscape that they could not be mapped separately at the scale selected for mapping. The unit is about 50 percent well drained, moderately deep Tunbridge soil, 30 percent well drained, very deep Berkshire soil, and 20 percent other soils. The Tunbridge soil is generally in slightly higher positions on the landscape than the Berkshire soil. Areas of the map unit are generally irregular in shape, or oblong, and range from 5 to 150 acres in size. In most areas stones, on average, 20 inches in diameter are 10 to 50 feet apart and cover 0.5 to 3 percent of the surface.

Typically, the surface layer of the Tunbridge soil is black fine sandy loam about 4 inches thick. The subsoil is about 22 inches thick. It is, proceeding downward, yellowish red fine sandy loam, strong brown gravelly fine sandy loam, yellowish brown gravelly fine sandy loam, and brownish yellow gravelly fine sandy loam. Mica schist bedrock is at a depth of 26 inches.

Typically, the Berkshire soil has a surface layer of very dark grayish brown fine sandy loam about 3 inches thick. The subsoil is about 32 inches thick. It is, proceeding downward, yellowish red fine sandy loam, dark brown fine sandy loam, yellowish brown fine sandy loam, and light olive brown gravelly fine sandy loam. The substratum to a depth of 60 inches or more is grayish brown gravelly sandy loam.

Included with this complex in mapping are small areas of Monadnock, Sunapee, Lyme, Lyman, and Marlow

soils. Sunapee and Lyme soils are in low spots and along drainageways. Lyman soils are generally on the tops of rises and knolls. Marlow and Monadnock soils are on side slopes. Also included are small areas of exposed bedrock and small areas of soils that are very shallow to bedrock. A few areas have been cleared of stones.

Permeability of the Tunbridge soil is moderate or moderately rapid. The available water capacity is moderate. Depth to bedrock is 20 to 40 inches. Potential frost action is moderate.

Permeability of the Berkshire soil is moderate or moderately rapid. The available water capacity is high. Depth to bedrock is generally more than 60 inches. The seasonal high water table is at a depth of more than 6 feet. Potential frost action is moderate.

Most areas of the soils in this complex are wooded. A few areas that have been cleared of surface stones are used for hay. A few areas are used for pasture or as homesites.

These soils generally are not suited to cultivated crops and hay and poorly suited to pasture. The main limitations to these uses are surface stones and slope. Included bedrock exposures and, on Lyman soils, shallow depth to bedrock limit use of the soils for farming. A few areas have been cleared of stones and do not have inclusions of bedrock exposures or Lyman soils. In these areas the soils are fairly suited to some agricultural uses.

Potential productivity of eastern white pine is very high on the Tunbridge soil and high on the Berkshire soil. There are few limitations to most forest management and logging operations. In some areas inclusions of bedrock exposures or small wet areas in low depressions limit use of some equipment. Careful design and layout of woodland access roads are needed to avoid rock outcrops and control erosion.

Slope, depth to bedrock, and stones on the surface limit use of these soils for urban development. The Berkshire soil is suitable for use as homesites and as sites for septic tank absorption fields. Areas of the Berkshire soil large enough for homesites and septic tank absorption fields need to be found in this complex. Generally, the larger the lot the more likely it will have a suitable building site. On the inclusions, shallowness to bedrock in Lyman soils, the seasonal high water table in Lyme soils, and areas of bedrock exposures are severe limitations to urban development. On construction sites, establishing vegetative cover helps control erosion.

This soil is in capability subclass VIs.

60D—Tunbridge-Berkshire complex, 15 to 25 percent slopes, very stony. This map unit consists of moderately steep soils generally on side slopes of hills and mountains of glaciated uplands. The soils are in such an intricate pattern that they could not be mapped separately at the scale selected for mapping. The unit is about 50 percent well drained, moderately deep Tunbridge soil, 30 percent well drained, very deep Berkshire soil, and 20 percent other soils. The Tunbridge soil is generally in slightly higher positions on the landscape than the Berkshire soil. Areas of the map unit are generally irregular in shape or somewhat oblong, and range from 5 to 200 acres. In most areas stones, on average, 20 inches in diameter are 10 to 50 feet apart and cover 0.5 to 3 percent of the surface.

Typically, the surface layer of the Tunbridge soil is black fine sandy loam about 4 inches thick. The subsoil is about 22 inches thick. It is, proceeding downward, yellowish red fine sandy loam, strong brown gravelly fine sandy loam, yellowish brown gravelly fine sandy loam, and brownish yellow gravelly fine sandy loam. Mica schist bedrock is at a depth of 26 inches.

Typically, the surface layer of the Berkshire soil is very dark grayish brown fine sandy loam about 3 inches thick. The subsoil is about 32 inches thick. It is, proceeding downward, yellowish red fine sandy loam, dark brown fine sandy loam, yellowish brown fine sandy loam, and light olive brown gravelly fine sandy loam. The substratum to a depth of 60 inches or more is grayish brown gravelly sandy loam.

Included with this complex in mapping are small areas of Monadnock, Sunapee, Lyme, Lyman, and Marlow soils. Sunapee and Lyme soils are in low spots and along drainageways. Lyman soils are generally on the tops of rises and knolls. Marlow and Monadnock soils are on lower side slopes. Also included are small areas of soils that have slopes of more than 25 percent, small areas of exposed bedrock, and small areas of soils that are very shallow to bedrock. A few areas of the soils in the unit have been cleared of stones.

Permeability of the Tunbridge soil is moderate or moderately rapid. The available water capacity is moderate. Depth to bedrock is 20 to 40 inches. Potential frost action is moderate.

Permeability of the Berkshire soil is moderate or moderately rapid. The available water capacity is high. Depth to bedrock is generally more than 60 inches. The seasonal high water table is at a depth of more than 6 feet. Potential frost action is moderate.

Most areas of the soils in this complex are wooded. A few areas that have been cleared of surface stones are used for pasture or hay. A few areas are used as homesites.

These soils are not suited to cultivated crops and hay and poorly suited to pasture. The main limitations to these uses are surface stones and slope. Included bedrock exposures and, on Lyman soils, shallow depth to bedrock limit use of the soils for farming. In a few areas the soils have been cleared of stones and are fairly suited to pasture.

Potential productivity of eastern white pine is very high on the Tunbridge soil and high on the Berkshire soil. Slope limits use of equipment. In some areas inclusions

of bedrock exposures or small, wet areas in low depressions or along drainageways also limit use of equipment. Careful design and layout of logging roads are needed to avoid rock outcrops and to control erosion.

Slope and depth to bedrock are severe limitations to use of these soils for urban development. On construction sites, quickly establishing vegetative cover helps control erosion.

This soil is in capability subclass VIs.

61B—Tunbridge-Lyman-Rock outcrop complex, 3 to 8 percent slopes. This map unit consists of gently sloping soils and areas of exposed bedrock generally on crests of hills and ridges or on plains in glaciated uplands. The soils and exposed bedrock are in such an intricate pattern that they could not be mapped separately at the scale selected for mapping. The map unit is about 40 percent well drained, moderately deep Tunbridge soil, 25 percent somewhat excessively drained, shallow Lyman soil, 20 percent exposed bedrock, and 15 percent other soils. The Lyman soil and areas of exposed bedrock are generally in slightly higher positions on the landscape than the Tunbridge soil. Areas of the map unit are oval and range from 4 to 25 acres in size. In most areas stones, on average, 20 inches in diameter are 10 to 50 feet apart and cover 0.5 to 3 percent of the surface.

Typically, the surface layer of the Tunbridge soil is black fine sandy loam about 4 inches thick. The subsoil is about 22 inches thick. It is, proceeding downward, yellowish red fine sandy loam, strong brown gravelly fine sandy loam, yellowish brown gravelly fine sandy loam, and brownish yellow gravelly fine sandy loam. Mica schist bedrock is at a depth of 26 inches.

Typically, the surface layer of the Lyman soil is a well decomposed organic mat about 1 inch thick. The subsoil is about 15 inches thick. It is yellowish red and strong brown fine sandy loam in the upper part and yellowish brown gravelly fine sandy loam in the lower part. Granitic bedrock is at a depth of 16 inches.

Included with this complex in mapping are small areas of Sunapee, Lyme, and Ossipee soils in low spots and along drainageways. Also included are small areas of gently sloping Berkshire, Marlow, and Monadnock soils generally on side slopes. Also included are a few areas of soils that are very shallow to bedrock and a few areas of soils that have large boulders on the surface.

Permeability of the Tunbridge soil is moderate or moderately rapid. The available water capacity is moderate. Depth to bedrock is 20 to 40 inches. Potential frost action is moderate.

Permeability of the Lyman soil is moderately rapid. The available water capacity is low. Depth to bedrock is 8 to 20 inches. Potential frost action is moderate.

Most areas of the soils in this complex are wooded. A few areas are used as homesites. A few areas are used for unimproved pasture.

These soils are not suited to cultivated crops and hay and poorly suited to pasture. The main limitations to these uses are depth to bedrock, rock outcrops, and stones on the surface.

Potential productivity of eastern white pine is very high on the Tunbridge soil and high on the Lyman soil. Trees do not grow on exposed bedrock. On the Lyman soil, windthrow is a severe hazard and seedling mortality is moderate. Bedrock exposures restrict forest management and logging operations. Careful design and layout of woodland access roads are needed to avoid rock outcrops.

Depth to bedrock and exposed bedrock limit use of these soils for urban development. However, the included areas of gently sloping Berkshire and Monadnock soils are suited to use as homesites and as sites for septic tank absorption fields. Areas of the included soils large enough for homesites and septic tank absorption fields need to be found. The larger the lot the more likely it has a suitable building site.

These soils are in capability subclass VIs.

61C—Tunbridge-Lyman-Rock outcrop complex, 8 to 15 percent slopes. This map unit consists of strongly sloping soils and areas of exposed bedrock generally on crests of hills and ridges in glaciated uplands. The soils and exposed bedrock are in such an intricate pattern on the landscape that they could not be mapped separately at the scale selected for mapping. The map unit is about 40 percent well drained, moderately deep Tunbridge soil, 25 percent somewhat excessively drained, shallow Lyman soil, 20 percent exposed bedrock, and 15 percent other soils. The Lyman soil and areas of exposed bedrock are generally in slightly higher positions on the landscape than the Tunbridge soil. Areas of the map unit are somewhat oval and range from 4 to 25 acres in size or are irregular in shape and range from 10 to 200 acres in size. In most areas stones, on average, 20 inches in diameter are 10 to 50 feet apart and cover 0.5 to 3 percent of the surface.

Typically, the surface layer of the Tunbridge soil is black fine sandy loam about 4 inches thick. The subsoil is about 22 inches thick. It is, proceeding downward, yellowish red fine sandy loam, strong brown gravelly fine sandy loam, yellowish brown gravelly fine sandy loam, and brownish yellow gravelly fine sandy loam. Mica schist bedrock is at a depth of 26 inches.

Typically, the surface layer of the Lyman soil is a well decomposed organic mat about 1 inch thick. The subsoil is about 15 inches thick. It is yellowish red and strong brown fine sandy loam in the upper part and yellowish brown gravelly fine sandy loam in the lower part. Granitic bedrock is at a depth of 16 inches.

Included with this complex in mapping are small areas of Sunapee, Lyme and Ossipee soils in low spots and along drainageways. Also included are small areas of strongly sloping Berkshire, Marlow, and Monadnock soils generally on side slopes. Also included are small areas of soils that have short, moderately steep or steep slopes and a few areas of soils that are very shallow to bedrock. Also included are a few areas of soils that have large boulders, 4 to 10 feet in diameter, on the surface.

Permeability of the Tunbridge soil is moderate or moderately rapid. The available water capacity is moderate. Depth to bedrock is 20 to 40 inches. Potential frost action is moderate.

Permeability of the Lyman soil is moderately rapid. The available water capacity is low. Depth to bedrock is 8 to 20 inches. Potential frost action is moderate.

Most areas of the soils in this complex are wooded. A few areas are used as homesites. A few areas are used for unimproved pasture.

These soils are not suited to cultivated crops and hay and poorly suited to pasture. The main limitations to these uses are depth to bedrock, bedrock outcrops, and stones on the surface.

Potential productivity of eastern white pine is very high for the Tunbridge soil and high for the Lyman soil. Trees do not grow on exposed bedrock. On the Lyman soil windthrow is a severe hazard and seedling mortality is moderate. Bedrock exposures restrict forest management and logging operations. Careful design and layout of woodland access roads is needed to avoid rock outcrops.

Slope, depth to bedrock, and exposed bedrock limit use of these soils for urban development. However, the included areas of strongly sloping Berkshire and Monadnock soils are suited to use as homesites and as sites for septic tank leach field systems. Areas of these included soils large enough for homesites and septic tank absorption fields need to be found. The larger the lot the more likely it has a suitable building site.

These soils are in capability subclass VIs.

61D—Tunbridge-Lyman-Rock outcrop complex, 15 to 25 percent slopes. This map unit consists of moderately steep soils and areas of exposed bedrock generally on side slopes of hills and mountains of glaciated uplands. The soils and exposed bedrock are in such an intricate pattern that they could not be mapped separately at the scale selected for mapping. The map unit is about 40 percent well drained, moderately deep Tunbridge soil, 25 percent somewhat excessively drained, shallow Lyman soil, 20 percent exposed bedrock, and 15 percent other soils. The Lyman soil and areas of exposed bedrock are generally in higher positions on the landscape than the Tunbridge soil. Areas of the map unit are irregular in shape and range from 5 to 300 acres in size. Stones, on average, 20 inches in diameter are 10 to 50 feet apart and cover 0.5 to 3 percent of the surface.

Typically, the surface layer of the Tunbridge soil is black fine sandy loam about 4 inches thick. The subsoil is about 22 inches thick. It is, proceeding downward, yellowish red fine sandy loam, strong brown gravelly fine sandy loam, yellowish brown gravelly fine sandy loam, and brownish yellow gravelly fine sandy loam. Mica schist bedrock is at a depth of 26 inches.

Typically, the surface layer of the Lyman soil is a well decomposed organic mat about 1 inch thick. The subsoil is about 15 inches thick. It is yellowish red and strong brown fine sandy loam in the upper part and yellowish brown gravelly fine sandy loam in the lower part. Granitic bedrock is at a depth of 16 inches.

Included with this complex in mapping are small areas of Sunapee, Lyme, and Ossipee soils in low spots and along drainageways. Also included are small areas of moderately steep Berkshire, Marlow, and Monadnock soils generally on side slopes. Also included are small areas of soils that have short, steep slopes and a few areas of very shallow soils. In a few areas of this complex large boulders, 4 to 10 feet in diameter, are on the surface. In a few areas bedrock exposures cover 25 to 50 percent of the surface.

Permeability of the Tunbridge soil is moderate or moderately rapid. The available water capacity is moderate. Depth to bedrock is 20 to 40 inches. Potential frost action is moderate.

Permeability of the Lyman soil is moderately rapid. The available water capacity is low. Depth to bedrock is 8 to 20 inches. Potential frost action is moderate.

Almost all areas of the soils in this complex are wooded. A few areas are used as homesites.

These soils are not suited to cultivated crops and hay and poorly suited to pasture, because of slope, rock outcrops, and stones on the surface.

Potential productivity of eastern white pine is very high on the Tunbridge soil and high on the Lyman soil. Trees do not grow on exposed bedrock. On the Lyman soil, windthrow is a severe hazard and seedling mortality is moderate. Bedrock exposures restrict forest management and logging operations. Careful design and layout of woodland access roads are needed to avoid rock outcrops and control erosion.

Slope, depth to bedrock, and areas of exposed bedrock are severe limitations to use of this soil for urban development.

These soils are in capability subclass VIs.

72B—Berkshire fine sandy loam, 3 to 8 percent slopes. This is a gently sloping, well drained soil on crests of hills and on plains of glaciated uplands. Areas of this soil are oblong or irregular in shape, and range from 4 to 25 acres in size.

Typically, the surface layer is dark brown fine sandy loam about 8 inches thick. The subsoil is about 27

inches thick. It is, proceeding downward, dark brown fine sandy loam, yellowish brown fine sandy loam, and light olive brown gravelly fine sandy loam. The substratum to a depth of 60 inches or more is grayish brown gravelly sandy loam.

Included with this soil in mapping are small areas of Skerry, Sunapee, and Lyme soils in low spots. Also included are small areas of Marlow and Becket soils generally on smoother slopes. These soils make up as much as 10 per cent of the map unit. Monadnock soils, which are similar to this Berkshire soil, make up as much as 10 percent of the map unit. They are randomly intermixed throughout the map unit.

Permeability of this Berkshire soil is moderate or moderately rapid. The available water capacity is high. Depth to bedrock is generally more than 60 inches. The seasonal high water table is at a depth of more than 6 feet. Potential frost action is moderate.

Most areas of this soil are used for hay or pasture. Many areas that had been cleared of stones and trees have reverted naturally to woodland or have been planted to pine. Some areas are used for cultivated crops or as homesites.

This soil is suited to cultivated crops, grasses, and legumes. Under a high level of management including timely applications of lime and fertilizer, good yields can be obtained. Conservation tillage, contour farming, and grasses and legumes included in the cropping system help control erosion. Cover crops, applications of manure, and crop residue returned to the soil help maintain soil tilth and organic matter content. In pasture management, deferred grazing, stocking rates within carrying capacity, and rotation grazing help improve productivity.

Potential productivity of eastern white pine on this soil is high. There are few limitations to forest management and logging operations.

This soil is suited to urban development. On construction sites, establishing a vegetative cover helps control erosion.

This soil is in capability subclass IIe.

72C—Berkshire fine sandy loam, 8 to 15 percent slopes. This is a strongly sloping, well drained soil on crests of hills, side slopes of hills, and plains of glaciated uplands. Areas of this soil are oblong or irregular in shape, and range from 4 to 40 acres in size.

Typically, the surface layer is dark brown fine sandy loam about 8 inches thick. The subsoil is about 27 inches thick. It is, proceeding downward, dark brown fine sandy loam, yellowish brown fine sandy loam, and light olive brown gravelly fine sandy loam. The substratum to a depth of 60 inches or more is grayish brown gravelly sandy loam.

Included with this soil in mapping are small areas of Skerry, Sunapee, and Lyme soils in low spots. Also included are small areas of Marlow and Becket soils generally on smoother side slopes. These soils make up as much as 10 percent of the map unit. Monadnock soils, which are similar to this Berkshire soil, make up as much as 10 percent of the map unit and are randomly intermixed throughout.

Permeability of this Berkshire soil is moderate or moderately rapid. The available water capacity is high. Depth to bedrock is generally more than 60 inches. The seasonal high water table is at a depth of more than 6 feet. Potential frost action is moderate.

Most areas of this soil are used for hay or pasture. Many areas that had been cleared of stones and trees have reverted naturally to woodland or have been planted to pine. A few areas are used for cultivated crops or as homesites.

This soil is poorly suited to cultivated crops and suited to grasses and legumes. Slope and the erosion hazard limit use of the soil for cultivated crops. Conservation tillage, contour farming, diversions, stripcropping, and grasses and legumes included in the cropping system help control erosion. Cover crops, applications of manure, and crop residue returned to the soil help maintain soil tilth and organic matter content. In pasture management, deferred grazing, stocking rates within carrying capacity, and rotation grazing help improve productivity.

Potential productivity of eastern white pine on this soil is high. There are few limitations to forest management and logging operations. Constructing logging roads on the contour helps control erosion.

This soil is suited to urban development, but slope is a limitation. On construction sites establishing a vegetative cover helps control erosion.

This soil is in capability subclass IIIe.

72D—Berkshire fine sandy loam, 15 to 25 percent slopes. This is a moderately steep, well drained soil on side slopes of hills and mountains of glaciated uplands. Areas of this soil are irregular in shape, or long and narrow, and range from 4 to 30 acres in size.

Typically, the surface layer is dark brown fine sandy loam about 8 inches thick. The subsoil is about 27 inches thick. It is, proceeding downward, dark brown fine sandy loam, yellowish brown fine sandy loam, and light olive brown gravelly fine sandy loam. The substratum to a depth of 60 inches or more is grayish brown gravelly sandy loam.

Included with this soil in mapping are small areas of Sunapee soils in low spots, Marlow and Becket soils generally on the higher and smoother side slopes, and Tunbridge soils on knolls. These soils make up as much as 10 percent of the map unit. Monadnock soils, which are similar to this Berkshire soil, make up as much as 15 percent of the map unit and are randomly intermixed throughout. Also included are a few areas of soils that have slopes of more than 25 percent.

Permeability of this soil is moderate or moderately rapid. The available water capacity is high. Depth to bedrock is generally more than 60 inches. The seasonal high water table is at a depth of more than 6 feet. Potential frost action is moderate.

Most areas of this soil are used for pasture or hay. Other areas that had been cleared of stones and trees have reverted naturally to woodland or have been planted to pine. A few areas are used as homesites.

This soil is not suited to cultivated crops and poorly suited to grasses and legumes. Slope and the erosion hazard are severe limitations to use of this soil for cultivated crops. Slope limits the use of equipment. In pasture management, deferred grazing, stocking rates within carrying capacity, and rotation grazing help improve pasture productivity.

Potential productivity of eastern white pine on this soil is high. Slope is a limitation to forest management and logging operations. Woodland access roads constructed on the contour, water bars spaced appropriately along the roadway, and properly sized and installed culverts help control erosion.

Slope limits the use of this soil for urban development. On construction sites, quickly establishing a vegetative cover helps control erosion.

This soil is in capability subclass IVe.

73B—Berkshire fine sandy loam, 3 to 8 percent slopes, very stony. This is a gently sloping, well drained soil on crests of hills and on plains of glaciated uplands. Areas of this soil are oblong or irregular in shape, and range from 4 to 30 acres in size. Stones, on average, 20 inches in diameter are 10 to 50 feet apart and cover 0.5 to 3 percent of the surface.

Typically, the surface layer is very dark grayish brown fine sandy loam about 3 inches thick. The subsoil is about 32 inches thick. It is, proceeding downward, yellowish red fine sandy loam, dark brown fine sandy loam, yellowish brown fine sandy loam, and light olive brown gravelly fine sandy loam. The substratum to a depth of 60 inches or more is grayish brown gravelly sandy loam.

Included with this soil in mapping are small areas of Skerry, Sunapee, and Lyme soils in low spots and Marlow and Becket soils generally on smoother side slopes. These soils make up as much as 10 percent of the map unit. Monadnock soils, which are similar to this Berkshire soil, make up as much as 15 percent of the map unit and are randomly intermixed throughout. Also included are small areas of soils that have a stony or bouldery surface layer.

Permeability of this Berkshire soil is moderate or moderately rapid. The available water capacity is high. Depth to bedrock is generally more than 60 inches. The seasonal high water table is at a depth of more than 6 feet. Potential frost action is moderate.

Most areas of this soil are wooded. A few areas are used for unimproved pasture or as homesites.

This soil is not suited to cultivated crops and hay because of stones on the surface. Removal of surface stones improves the suitability of this soil for agricultural use. The soil is poorly suited to pasture. Surface stones restrict equipment operations and pasture improvement practices.

Potential productivity of eastern white pine on this soil is high. There are few limitations to forest management and logging operations.

This soil is suited to urban development. On construction sites, establishing a vegetative cover helps control erosion.

This soil is in capability subclass VIs.

73C—Berkshire fine sandy loam, 8 to 15 percent slopes, very stony. This is a strongly sloping, well drained soil on crests of hills, side slopes of hills, and plains of glaciated uplands. Areas of this soil are oblong or irregular in shape, and range from 4 to 100 acres in size. Stones, on average, 20 inches in diameter are 10 to 50 feet apart and cover 0.5 to 3 percent of the surface.

Typically, the surface layer is very dark grayish brown fine sandy loam about 3 inches thick. The subsoil is about 32 inches thick. It is, proceeding downward, yellowish red fine sandy loam, dark brown fine sandy loam, yellowish brown fine sandy loam, and light olive brown gravelly fine sandy loam. The substratum to a depth of 60 inches or more is grayish brown gravelly sandy loam.

Included with this soil in mapping are small areas of Skerry, Sunapee, and Lyme soils in low spots and along drainageways. Also included are small areas of Marlow and Becket soils generally on smoother side slopes. These soils make up as much as 10 percent of the map unit. Monadnock soils, which are similar to this Berkshire soil, make up as much as 15 percent of the map unit and are randomly intermixed throughout. Also included are areas of soils that are extremely stony or bouldery and small areas of soils that have short slopes of more than 15 percent.

Permeability of this Berkshire soil is moderate or moderately rapid. The available water capacity is high. Depth to bedrock is generally more than 60 inches. The seasonal high water table is at a depth of more than 6 feet. Potential frost action is moderate.

Most areas of this soil are wooded. A few areas are used for unimproved pasture or as homesites.

This soil is not suited to cultivated crops and hay because of stones on the surface. Removal of surface stones improves the suitability of this soil for agricultural use. The soil is poorly suited to pasture. Surface stones restrict equipment operations and pasture improvement practices.

Potential productivity of eastern white pine on this soil is high. There are few limitations to forest management and logging operations. Constructing logging roads on the contour helps control erosion.

This soil is suited to urban development. Stones, slope, and potential frost action are moderate limitations. Removal of stones from construction sites and land grading increase development costs (fig. 8). On construction sites, establishing a vegetative cover helps control erosion.

This soil is in capability subclass VIs.

73D—Berkshire fine sandy loam, 15 to 25 percent slopes, very stony. This is a moderately steep, well drained soil on side slopes of hills and mountains of glaciated uplands. Areas of this soil are oblong or irregular in shape, and range from 4 to 120 acres in size. Stones, on average, 20 inches in diameter are 10 to 50 feet apart and cover 0.5 to 3 percent of the surface.

Typically, the surface layer is very dark grayish brown fine sandy loam about 3 inches thick. The subsoil is about 32 inches thick. It is, proceeding downward, yellowish red fine sandy loam, dark brown fine sandy loam, yellowish brown fine sandy loam, and light olive brown gravelly fine sandy loam. The substratum to a depth of 60 inches or more is grayish brown gravelly sandy loam.

Included with this soil in mapping are small areas of Skerry, Sunapee, and Lyme soils in low spots and along

Figure 8.—An area of Berkshire fine sandy loam, 8 to 15 percent slopes, very stony. The lawn areas of this housing development have been cleared of stones.

drainageways. Also included are small areas of Marlow and Becket soils generally on smoother side slopes. These soils make up as much as 10 percent of the map unit. Monadnock soils, which are similar to this Berkshire soil, make up as much as 15 percent of the map unit and are randomly intermixed throughout. Also included are areas of soils that are extremely stony or bouldery on the surface.

Permeability of this Berkshire soil is moderate or moderately rapid. The available water capacity is high. Depth to bedrock is generally more than 60 inches. The seasonal high water table is at a depth of more than 6 feet. Potential frost action is moderate.

Most areas of this soil are wooded. A few areas are used for unimproved pasture or as homesites.

This soil is not suited to cultivated crops and hay and poorly suited to pasture, because of stones on the surface and slope. Surface stones and slope restrict equipment operations and pasture improvement practices. Removal of surface stones and trees will improve the suitability of the soil for pasture.

Potential productivity of eastern white pine on this soil is high. Slope limits use of equipment. Woodland access roads constructed on the contour, properly sized and installed culverts, and water bars spaced appropriately along the roadway help control erosion.

Slope limits use of this soil for urban development. On construction sites, quickly establishing a vegetative cover helps control erosion.

This soil is in capability subclass VIs.

76B—Marlow fine sandy loam, 3 to 8 percent slopes. This is a gently sloping, well drained soil on crests of smooth, rounded hills of glaciated uplands. Areas of this soil are generally oval and range from 3 to 30 acres in size.

Typically, the surface layer is dark brown fine sandy loam about 8 inches thick. The subsoil is about 17 inches thick. It is dark brown, yellowish brown, and light olive brown fine sandy loam. The substratum extends to a depth of 60 inches or more. It is olive gray gravelly fine sandy loam in the upper part and dark gray gravelly loam in the lower part. It is mottled throughout and is firm in the upper part and very firm in the lower part.

Included with this soil in mapping are small areas of Peru and Pillsbury soils in low spots. These soils make up as much as 15 percent of the map unit. Becket soils, which are similar to this Marlow soil, make up as much as 10 percent of the map unit and are randomly intermixed throughout.

Permeability of this Marlow soil is moderate above the substratum and slow or moderately slow in the firm, compacted substratum, or hardpan. The available water capacity is moderate. Depth to bedrock is more than 60 inches. The perched seasonal high water table is at a depth of 2 to 3.5 feet in March and April. The hardpan is at a depth of 14 to 35 inches and limits the rooting depth of plants. Potential frost action is moderate.

Most areas of this soil are used for hay. Some areas are used for cultivated crops, pasture, or residential development. Some areas that had been cleared of stones and used for farming have been planted to pine or have reverted naturally to woodland.

This soil is suited to cultivated crops, hay, pasture, and orchards. Contour farming, conservation tillage, stripcropping, and grasses and legumes included in the cropping system help control erosion. In some areas tile drainage is needed to remove excess water from seep spots, which are common in this soil. In pasture management, deferred grazing, stocking rates within carrying capacity, and rotation grazing help improve pasture productivity.

Potential productivity of eastern white pine on this soil is high. There are few limitations to forest management and logging operations. Equipment operations during wet periods increases the hazard of erosion and of rutting roadways.

Slow permeability in the firm, compacted substratum, or hardpan, the perched seasonal high water table in spring, slope, and potential frost action limit use of this soil for urban development. Special design and installation for septic tank absorption fields are needed. Larger absorption beds and raised absorption fields are common designs used on this soil. Curtain drains around house foundations and sealed foundation walls help prevent wet basements. On construction sites, establishing plant cover helps control erosion. Using coarser grained subgrade or base material helps prevent the damage to local roads and streets caused by frost heave.

This soil is in capability subclass IIe.

76C—Marlow fine sandy loam, 8 to 15 percent slopes. This is a strongly sloping, well drained soil on crests of rounded hills and smooth, convex side slopes of glaciated uplands. Areas of this soil are generally oblong and range from 5 to 40 acres in size.

Typically, the surface layer is dark brown fine sandy loam about 8 inches thick. The subsoil is about 17 inches thick. It is dark brown, yellowish brown, and light olive brown fine sandy loam. The substratum extends to a depth of 60 inches or more. It is olive gray gravelly fine sandy loam in the upper part and dark gray gravelly loam in the lower part. It is mottled throughout and is firm in the upper part and very firm in the lower part.

Included with this soil in mapping are small areas of Peru and Pillsbury soils in low spots and small areas of Berkshire soils on uneven, lower side slopes. These soils make up as much as 15 percent of the map unit. Becket soils, which are similar to this Marlow soil, make up as much as 10 percent of the map unit and are randomly intermixed throughout.

Permeability of this Marlow soil is moderate above the substratum and slow or moderately slow in the firm, compacted substratum, or hardpan. The available water capacity is moderate. Depth to bedrock is more than 60 inches. The perched seasonal high water table is at a depth of 2 to 3.5 feet in March and April. The hardpan is at depth of 14 to 35 inches and limits the rooting depth of plants. Potential frost action is moderate.

Most areas of this soil are used for hay. Some areas are used for cultivated crops, pasture, or residential development. Some areas that had been cleared of stones and used for farming have been planted to pine or have naturally reverted to woodland.

This soil is poorly suited to cultivated crops because of slope and the erosion hazard. Strip cropping, contour farming, conservation tillage, diversions, and grasses and legumes included in the cropping system help control erosion. The soil is suited to hay, pasture, and orchards. In some areas tile drainage is needed to remove excess water from seep spots, which are common in this soil. High yields can be obtained under good management including timely applications of lime and fertilizer. In pasture management, deferred grazing, stocking rates within carrying capacity, and rotation grazing help improve pasture productivity.

Potential productivity of eastern white pine on this soil is high. There are few limitations to forest management and logging operations. However, equipment operations during wet periods increase the erosion hazard and damage woodland access roads. Constructing woodland access roads on the contour helps control erosion.

Slow permeability in the hardpan, slope, potential frost action, and the perched seasonal high water table in spring limit use of this soil for urban development. Special design and installation are needed for septic tank absorption fields. Larger absorption beds and raised absorption fields are common designs used on this soil. Curtain drains around house foundations, sealed foundation walls, and interceptor drains upslope from the house foundation help prevent wet basements. On construction sites, establishing plant cover helps control erosion. Using coarser grained subgrade or base material helps prevent the damage to local roads and streets caused by frost heave.

This soil is in capability subclass IIIe.

76D—Marlow fine sandy loam, 15 to 25 percent slopes. This is a moderately steep, well drained soil on smooth, convex side slopes of glaciated uplands. Areas of this soil are long and narrow or irregular in shape, and range from 5 to 30 acres in size.

Typically, the surface layer is dark brown fine sandy loam about 8 inches thick. The subsoil is about 17 inches thick. It is dark brown, yellowish brown, and light olive brown fine sandy loam. The substratum extends to a depth of 60 inches or more. It is olive gray gravelly fine sandy loam in the upper part and dark gray gravelly loam in the lower part. It is mottled throughout and is firm in the upper part and very firm in the lower part.

Included with this soil in mapping are small areas of Peru soils in low spots and small areas of Berkshire soils on uneven lower side slopes. These soils make up as much as 10 percent of the map unit. Becket soils, which are similar to this Marlow soil, make up as much as 15 percent of the map unit and are randomly intermixed throughout. Also included are small areas of soils that have slopes of more than 25 percent.

Permeability of this Marlow soil is moderate above the substratum and slow or moderately slow in the firm, compacted substratum, or hardpan. The available water capacity is moderate. Depth to bedrock is more than 60 inches. The perched seasonal high water table is at a depth of 2 to 3.5 feet in March and April. The hardpan is at a depth of 12 to 24 inches and limits the rooting depth of plants. Potential frost action is moderate.

Most areas of this soil are used for hay or are wooded. A few areas are used for pasture (fig. 9) or as homesites. Some of the woodland areas had been cleared of stones and used for farming at one time, but have been planted to pine or have reverted naturally to woodland.

This soil is not suited to cultivated crops because of slope. Erosion is a severe hazard on cultivated fields. The soil is poorly suited to hay and pasture. Slope restricts use of equipment. In pasture management, deferred grazing, stocking rates within carrying capacity, and grazing help improve pasture productivity.

Potential productivity of eastern white pine on this soil is high. The equipment limitation is moderate because of slope. Equipment operations during wet periods increase the erosion hazard. Woodland access roads that are properly designed and carefully laid out help to control erosion. Constructing woodland access roads on the contour, installing culverts properly, and spacing water bars or diversions at appropriate distances along the roadway help control erosion.

Slope and slow permeability in the compacted substratum, or hardpan, severely limit use of this soil for urban development. Establishing plant cover after construction helps control erosion. Using coarser grained subgrade or base material helps prevent the damage to local roads and streets caused by frost heave.

This soil is in capability subclass IVe.

77B—Marlow fine sandy loam, 3 to 8 percent slopes, very stony. This is a gently sloping, well drained soil on crests of smooth, rounded hills of glaciated uplands. Areas of this soil are generally oval and range from 4 to 25 acres in size. Stones, on average, 20 inches in diameter are 10 to 50 feet apart and cover 0.5 to 3 percent of the surface.

Typically, the surface layer is dark brown fine sandy loam about 4 inches thick. The subsoil is about 21 inches thick. It is, proceeding downward, dark brown,

Figure 9.—This area of Marlow fine sandy loam, 15 to 25 percent slopes, is used for pasture.

yellowish brown, and light olive brown fine sandy loam. The substratum extends to a depth of 60 inches or more. It is olive gray gravelly fine sandy loam in the upper part and dark gray gravelly loam in the lower part. It is mottled throughout, and is firm in the upper part and very firm in the lower part.

Included with this soil in mapping are small areas of Peru and Pillsbury soils in low spots and small areas of Berkshire soils on uneven side slopes. These soils make up as much as 15 percent of the map unit. Becket soils, which are similar to this Marlow soil, make up as much as 10 percent of the map unit and are randomly intermixed throughout.

Permeability of this Marlow soil is moderate above the substratum and slow or moderately slow in the firm, compacted substratum, or hardpan. The available water capacity is moderate. Depth to bedrock is more than 60 inches. The perched seasonal high water table is at a depth of 2 to 3.5 feet in March and April. The hardpan is at a depth of 18 to 35 inches and limits the rooting depth of plants. Potential frost action is moderate.

Most areas of this soil are wooded. A few areas are used as homesites or unimproved pasture.

This soil is not suited to cultivated crops and hay and poorly suited to pasture, because of surface stones. Removal of surface stones and trees will improve the suitability of this soil for farming.

Potential productivity of eastern white pine on this soil is high. There are few limitations to forest management and logging operations. Equipment operations during wet periods rut roadways and skid trails. Scheduling logging operations during dry periods or in winter when the

ground is frozen helps prevent damage to the surface layer.

Stones on the surface, slow permeability in the hardpan, slope, potential frost action, and the perched seasonal high water table in spring limit use of this soil for urban development. Special design and installation are needed for septic tank absorption fields. Larger absorption beds and raised absorption fields are common designs used on this soil. Curtain drains around house foundations and sealed foundation walls help prevent wet basements. Removal of stones from sites for house foundations and septic tank absorption fields increases construction costs. Using coarser grained subgrade or base material helps prevent the damage to local roads and streets caused by frost heave.

This soil is in capability subclass VIs.

77C—Marlow fine sandy loam, 8 to 15 percent slopes, very stony. This is a strongly sloping, well drained soil on crests of round hills and on smooth, convex side slopes of glaciated uplands. Areas of this soil are generally oval and range from 5 to 40 acres in size. Stones, on average, 20 inches in diameter are 10 to 50 feet apart and cover 0.5 to 3 percent of the surface.

Typically, the surface layer is dark brown fine sandy loam about 4 inches thick. The subsoil is about 21 inches thick. It is, proceeding downward, dark brown, yellowish brown, and light olive brown fine sandy loam. The substratum extends to a depth of 60 inches or more. It is olive gray gravelly fine sandy loam in the upper part and dark gray gravelly loam in the lower part. The substratum is mottled throughout and is firm in the upper part and very firm in the lower part.

Included with this soil in mapping are small areas of Peru and Pillsbury soils in low spots and along drainageways and small areas of Berkshire soils on uneven, lower side slopes or on knolls. These soils make up as much as 15 percent of the map unit. Becket soils, which are similar to this Marlow soil, make up as much as 10 percent of the map unit and are randomly intermixed throughout. Also included are some areas of Marlow soils that are extremely stony on the surface.

Permeability of this Marlow soil is moderate above the substratum and slow or moderately slow in the firm, compacted substratum, or hardpan. The available water capacity is moderate. Depth to bedrock is more than 60 inches. The perched seasonal high water table is at a depth of 2 to 3.5 feet in March and April. The hardpan is at a depth of 18 to 35 inches and limits the rooting depth of plants. Potential frost action is moderate.

Most areas of this soil are wooded. A few areas are used as homesites or for unimproved pasture.

This soil is not suited to cultivated crops and hay and poorly suited to pasture, because of surface stones. Removal of surface stones and trees will improve the suitability of this soil for farming.

Potential productivity of eastern white pine on this soil is high. There are few limitations to forest management and logging operations. Equipment operations during wet periods increases the erosion hazard, particularly on skid trails and roadways. Scheduling logging operations during dry periods or winter when the ground is frozen helps control erosion and prevent rutting on roadways. Constructing woodland access roads on the contour helps control erosion.

Stones on the surface, slow permeability in the hardpan, slope, potential frost action, and the perched seasonal high water table in spring limit use of this soil for urban development. Special design and installation for septic tank absorption fields are needed. Larger absorption beds and raised absorption fields are common designs used on this soil. Curtain drains around house foundations, sealed foundation walls, and interceptor drains upslope from the house foundation help prevent wet basements. Removal of stones from sites for house foundations and septic tank absorption fields increases construction costs. On construction sites, establishing a plant cover helps control erosion. Using coarser grained subgrade or base material helps prevent the damage to local roads and streets caused by frost heave.

This soil is in capability subclass VIs.

77D—Marlow fine sandy loam, 15 to 25 percent slopes, very stony. This is a moderately steep, well drained soil on smooth, convex, side slopes of rounded hills of glaciated uplands. Areas of this soil are long and narrow or irregular in shape, and range from 5 to 300 acres in size. Stones, on average, 20 inches in diameter are 10 to 50 feet apart and cover 0.5 to 3 percent of the surface.

Typically, the surface layer is dark brown fine sandy loam about 4 inches thick. The subsoil is about 21 inches thick. It is, proceeding downward, dark brown, yellowish brown, and light olive brown fine sandy loam. The substratum extends to a depth of 60 inches or more. It is olive gray gravelly fine sandy loam in the upper part and dark gray gravelly loam in the lower part. The substratum is mottled throughout and is firm in the upper part and very firm in the lower part.

Included with this soil in mapping are small areas of Peru and Pillsbury soils in low spots and along drainageways and small areas of Berkshire and Tunbridge soils generally on uneven side slopes or on knolls. These soils make up as much as 15 percent of the map unit. Becket soils, which are similar to this Marlow soil, make up as much as 10 percent of the map unit and are randomly intermixed throughout. Also included are some areas of soils that are extremely stony or bouldery on the surface.

Permeability of this Marlow soil is moderate above the substratum and slow or moderately slow in the firm, compacted substratum, or hardpan. The available water

capacity is moderate. Depth to bedrock is more than 60 inches. The perched seasonal high water table is at a depth of 2 to 3.5 feet in March and April. The hardpan is at a depth of 18 to 35 inches and limits the rooting depth of plants. Potential frost action is moderate.

Most areas of this soil are wooded. A few areas are used as homesites or for unimproved pasture.

This soil is not suited for cultivated crops and hay and poorly suited to pasture, because of surface stones and slope. Removal of stones and trees will improve the suitability of the soil for pasture.

Potential productivity of eastern white pine on this soil is high. Slope limits use of equipment. Equipment operations during wet periods increases the erosion hazard, particularly on skid trails and roadways. Scheduling logging operations during dry periods or in winter when the ground is frozen help control erosion and prevent rutting on roadways. Woodland access roads constructed on the contour, properly sized and installed culverts, and water bars spaced appropriately on the roadway help control erosion.

Slope and slow permeability in the hardpan severely limit use of this soil for urban development. On construction sites, quickly establishing plant cover helps control erosion. Using coarser grained subgrade or base material helps prevent the damage to local roads and streets caused by frost heave.

This soil is in capability subclass VIs.

77E—Marlow fine sandy loam, 25 to 50 percent slopes, very stony. This is a steep and very steep, well drained soil on smooth, convex side slopes of glaciated uplands. Areas are long and narrow or irregular in shape, and range from 5 to 100 acres in size. Stones, on average, 20 inches in diameter are 10 to 50 feet apart and cover 0.5 to 3 percent of the surface.

Typically, the surface layer is dark brown fine sandy loam about 4 inches thick. The subsoil is about 21 inches thick. It is, proceeding downward, dark brown, yellowish brown, and light olive brown fine sandy loam. The substratum extends to a depth of 60 inches or more. It is olive gray gravelly fine sandy loam in the upper part and dark gray gravelly loam in the lower part. The substratum is mottled and is firm in the upper part and very firm in the lower part.

Included with this soil in mapping are small areas of Peru and Pillsbury soils in low spots and along drainageways. Also included are small areas of Berkshire and Tunbridge soils. Berkshire soils are generally on uneven landforms and in lower slope positions. Tunbridge soils are also on uneven landforms or knolls, but are generally higher on the landscape. These soils make up as much as 15 percent of the map unit. Becket soils, which are similar to this Marlow soil, make up as much as 10 percent of the map unit. Also included are some areas of soils that are extremely stony or bouldery on the surface.

Permeability of this Marlow soil is moderate above the substratum and slow or moderately slow in the firm, compacted substratum, or hardpan. The available water capacity is moderate. Depth to bedrock is more than 60 inches. The perched seasonal high water table is at a depth of 2 to 3.5 feet in March and April. The hardpan is at a depth of 18 to 35 inches and limits the rooting depth of plants. Potential frost action is moderate.

Nearly all areas of this soil are wooded.

This soil is not suited to agricultural use or to urban development, because of steep and very steep slopes.

Potential productivity of eastern white pine on this soil is high. Slope limits use of equipment. Equipment operations during wet periods increase the erosion hazard, particularly on skid trails and roadways. Constructing woodland access roads in adjacent areas that are not as steep is a suitable management practice.

This soil is in capability subclass VIIs.

78B—Peru fine sandy loam, 3 to 8 percent slopes. This is a gently sloping, moderately well drained soil on concave, lower foot slopes and on broad crests of smooth landforms in glaciated uplands. Areas of this soil are generally oblong and range from 3 to 60 acres in size.

Typically, the surface layer is dark brown fine sandy loam about 7 inches thick. The subsurface layer is gray sandy loam about 2 inches thick. The subsoil is about 12 inches thick. It is reddish brown, dark brown, and dark yellowish brown fine sandy loam. It is mottled in the lower part. The substratum extends to a depth of 60 inches or more. It is friable, olive gravelly sandy loam in the upper part and very firm, olive gray gravelly fine sandy loam in the lower part.

Included with this soil in mapping are small areas of Marlow and Becket soils on rises and Pillsbury soils in low spots. Also included are small areas of Sunapee soils on uneven, lower slopes. These soils make up as much as 15 percent of the map unit. Skerry soils, which are similar to this Peru soil, make up as much as 10 percent of the map unit and are randomly intermixed throughout. Also included are a few areas of soils that have slopes of less than 3 percent.

Permeability of this Peru soil is moderate above the substratum and slow or moderately slow in the firm, compacted substratum, or hardpan. The available water capacity is moderate. Depth to bedrock is more than 60 inches. The seasonal high water table is at a depth of 1.5 to 2.5 feet from November through May. The hardpan is at a depth of 15 to 28 inches and limits the rooting depth of plants. Potential frost action is high.

Most areas of this soil are used for hay. Some areas that had been cleared of stones and trees have been planted to pine or have naturally reverted to woodland. A few areas are used for cultivated crops or pasture. A few areas are used as homesites.

This soil is suited to cultivated crops, grasses, and legumes. The seasonal high water table restricts the choice of crops and delays cultivation and planting in spring. Tile drainage improves the soil for agricultural use. Cover crops, conservation tillage, and grasses and legumes included in the cropping system help control erosion. In pasture management, deferred grazing, stocking rates within carrying capacity, and rotation grazing help improve pasture productivity. Restricted grazing during wet periods helps prevent damage caused by animal traffic to the surface layer.

Potential productivity of eastern white pine on this soil is high. There are few limitations to most types of forest management and logging operations. The seasonal high water table hinders logging operations in spring or during prolonged wet periods. Logging during wet periods increases the hazard of erosion and ruts logging roads. Scheduling logging operations during dry periods or in winter when the ground is frozen helps prevent damage to the surface layer.

The seasonal high water table, slow permeability in the hardpan, slope, and potential frost action limit use of this soil for urban development. Special design and installation are needed for septic tank absorption fields. Raised absorption beds and larger absorption fields are common designs used on this soil. Curtain drains around foundations and sealed foundation walls help prevent wet basements. On construction sites, establishing a vegetative cover helps control erosion. Using coarser grained subgrade or base material helps prevent the damage to local roads and streets caused by frost heave.

This soil is in capability subclass IIe.

78C—Peru fine sandy loam, 8 to 15 percent slopes. This is a strongly sloping, moderately well drained soil on concave, lower foot slopes of smooth landforms in glaciated uplands. Areas of this soil are oblong and range from 3 to 20 acres in size.

Typically, the surface layer is dark brown fine sandy loam about 7 inches thick. The subsurface layer is gray sandy loam about 2 inches thick. The subsoil is about 12 inches thick. It is reddish brown, dark brown, and dark yellowish brown fine sandy loam. It is mottled in the lower part. The substratum extends to a depth of 60 inches or more. It is olive gravelly sandy loam in the upper part and olive gray gravelly fine sandy loam in the lower part. It is friable in the upper part and very firm in the lower part.

Included with this soil in mapping are small areas of Marlow and Becket soils on rises and Pillsbury soils in low spots. Also included are small areas of Sunapee soils on uneven, lower slopes. These soils make up as much as 15 percent of the map unit. Skerry soils, which are similar to this Peru soil, make up as much as 10 percent of the map unit and are randomly intermixed throughout.

Permeability of this Peru soil is moderate above the substratum and slow or moderately slow in the firm, compacted substratum, or hardpan. The available water capacity is moderate. The depth to bedrock is more than 60 inches. The seasonal high water table is at a depth of 1.5 to 2.5 feet from November to May. The hardpan is at a depth of 15 to 28 inches and limits the rooting depth of plants. Potential frost action is high.

Most areas of this soil are used for hay. Some areas that had been cleared of stones and trees have reverted naturally to woodland or have been planted to pine. A few areas are used for cultivated crops or pasture or as homesites.

This soil is suited to grasses and legumes. The soil is poorly suited to cultivated crops because of slope and the erosion hazard. In addition, the seasonal high water table restricts the choice of crops and delays cultivation and planting in spring. Tile drainage improves the soil for farming. Cover crops, contour farming, conservation tillage, diversions, and grasses and legumes included in the cropping system help control erosion. Deferred grazing, stocking rates within carrying capacity, and rotation grazing help improve pasture productivity. Restricted grazing during wet periods helps prevent damage by animal traffic to the soil surface.

Potential productivity of eastern white pine on this soil is high. In some years the seasonal high water table hinders logging operations in spring or during prolonged wet periods. Scheduling logging activities during dry periods or in winter when the soil is frozen helps prevent rutting on woodland roads and skid trails. Constructing logging roads on the contour helps control erosion.

Slope, the seasonal high water table, slow permeability in the hardpan, and high potential frost action limit use of this soil for urban development. Special design and installation of septic tank absorption fields are needed. Raised absorption beds and larger absorption fields are common designs on this soil. Curtain drains around foundation walls, sealed foundation walls, and interceptor drains upslope from the foundation help prevent wet basements. On construction sites, establishing a vegetative cover helps control erosion. Using coarser grained subgrade or base material helps prevent the damage to local roads and streets caused by frost heave.

This soil is in capability subclass IIIe.

79B—Peru fine sandy loam, 3 to 8 percent slopes, very stony. This is a gently sloping, moderately well drained soil on broad crests, on concave, lower foot slopes, and along drainageways of smooth landforms of glaciated uplands. Areas of this soil are long and narrow or irregular in shape, and range from 4 to 80 acres in size. Stones, on average, 20 inches in diameter are 10 to 50 feet apart and cover 0.5 to 3 percent of the surface.

Typically, the surface layer is covered with a well decomposed organic mat about 1 inch thick. The surface layer is very dark gray fine sandy loam about 3 inches thick. The subsurface layer is gray sandy loam about 2 inches thick. The subsoil is about 17 inches thick. It is, proceeding downward, reddish brown, dark brown, and dark yellowish brown fine sandy loam. It is mottled in the lower part. The substratum extends to a depth of 60 inches of more. It is friable, olive gravelly sandy loam in the upper part and very firm, olive gray gravelly fine sandy loam in the lower part.

Included with this soil in mapping are small areas of Marlow and Becket soils on rises and Pillsbury soils in low spots and along drainageways. These soils make up as much as 15 percent of the map unit. Skerry soils, which are similar to this Peru soil, make up as much as 10 percent of the map unit and are intermixed throughout. Also included are a few areas of soils that have slopes of less than 3 percent.

Permeability of this Peru soil is moderate above the substratum and slow or moderately slow in the firm, compacted substratum, or hardpan. The available water capacity is moderate. Depth to bedrock is more than 60 inches. The seasonal high water table is at a depth of 1.5 to 2.5 feet from November through May. The hardpan is at a depth of 18 to 32 inches and limits the rooting depth of plants. Potential frost action is high.

Most areas of this soil are wooded. A few areas are used as homesites or for unimproved pasture.

This soil is not suited to cultivated crops and hay and poorly suited to pasture, because of surface stones. Removal of surface stones and trees will improve the suitability of this soil for farming.

Potential productivity of eastern white pine on this soil is high. There are few limitations to most types of forest management and logging operations. In some years the seasonal high water table hinders logging operations in spring or during prolonged wet periods. Scheduling logging activities during dry periods or in winter helps prevent rutting on woodland access roads and skid trails.

The seasonal high water table, slow permeability in the hardpan, slope, stones on the surface, and potential frost action limit use of this soil for urban development. Special design and installation are needed for septic tank absorption fields. Raised absorption beds and larger absorption fields are common designs used on this soil. Curtain drains around foundations, sealed foundation walls, and interceptor drains upslope from the foundation help prevent wet basements. On construction sites, establishing a vegetative cover helps control erosion. Using coarser grained subgrade or base material helps prevent the damage to local roads and streets caused by frost heave.

This soil is in capability subclass VIs.

79C—Peru fine sandy loam, 8 to 15 percent slopes, very stony. This is a strongly sloping, moderately well drained soil on concave, lower, foot slope positions of smooth landforms of glaciated uplands. Areas of this soil are generally oblong or irregular in shape, and range from 4 to 30 acres in size. Stones, on average, 20 inches in diameter are 10 to 50 feet apart and cover 0.5 to 3 percent of the surface.

Typically, the surface layer is covered with a well decomposed organic mat 1 inch thick. The surface layer is very dark gray fine sandy loam about 3 inches thick. The subsurface layer is gray sandy loam about 2 inches thick. The subsoil is about 17 inches thick. It is, proceeding downward, reddish brown, dark brown, and dark yellowish brown fine sandy loam. It is mottled in the lower part. The substratum extends to a depth of 60 inches or more. It is friable, olive gravelly sandy loam in the upper part and very firm, olive gray gravelly fine sandy loam in the lower part.

Included with this soil in mapping are small areas of Marlow and Becket soils on rises and Pillsbury soils in low spots and along drainageways. Also included are small areas of Sunapee soils in uneven, lower slope positions. These soils make up as much as 15 percent of the map unit. Skerry soils, which are similar to this Peru soil, make up as much as 10 percent of the map unit and are randomly intermixed throughout.

Permeability of this Peru soil is moderate above the substratum and slow or moderately slow in the firm, compacted substratum, or hardpan. The available water capacity is moderate. Depth to bedrock is more than 60 inches. The seasonal high water table is at a depth of 1.5 to 2.5 feet from November through May. The hardpan is at a depth of 18 to 32 inches, and limits the rooting depth of plants. Potential frost action is high.

Most areas of this soil are wooded. A few areas are used as homesites or for unimproved pasture.

This soil is not suited to cultivated crops and hay and poorly suited to pasture, because of surface stones. Removal of surface stones and trees will improve the suitability of this soil for farming.

Potential productivity of eastern white pine on this soil is high. In some years the seasonal high water table hinders logging operations in spring or during prolonged wet periods. Scheduling logging activities during dry periods or in winter when the ground is frozen helps prevent rutting on woodland access roads and skidder trails. Constructing logging roads on the contour helps control erosion.

Slope, the seasonal high water table, slow permeability in the hardpan, stones on the surface, and potential frost action limit use of this soil for urban development. Special design and installation are needed for septic tank absorption fields. Raised absorption beds and larger absorption fields are common designs used on this soil. Curtain drains around foundations, sealed foundation walls, and interceptor drains upslope from the foundation help prevent wet basements. On construction sites, quickly establishing a vegetative cover helps control

erosion. Using coarser grained subgrade or base material helps prevent the damage to local roads and streets caused by frost heave.

This soil is in capability subclass VIs.

79D—Peru fine sandy loam, 15 to 25 percent slopes, very stony. This is a moderately steep, moderately well drained soil in concave, lower, foot slope positions of smooth landforms of glaciated uplands. Areas of this soil are long and narrow or irregular in shape, and range from 5 to 20 acres in size. Stones, on average, 20 inches in diameter are 10 to 50 feet apart and cover 0.5 to 3 percent of the surface.

Typically, the surface layer is covered with a well decomposed organic mat about 1 inch thick. The surface layer is very dark gray fine sandy loam about 3 inches thick. The subsurface layer is gray sandy loam about 2 inches thick. The subsoil is about 17 inches thick. It is, proceeding downward, reddish brown, dark brown, and dark yellowish brown fine sandy loam. It is mottled in the lower part. The substratum extends to a depth of 60 inches or more. It is friable, olive gravelly sandy loam in the upper part and very firm, olive gray gravelly fine sandy loam in the lower part.

Included with this soil in mapping are small areas of Marlow and Becket soils on rises or in the higher slope positions and small areas of Pillsbury soils along drainageways. These soils make up as much as 15 percent of the map unit.

Permeability of this Peru soil is moderate above the substratum and slow or moderately slow in the firm, compacted substratum, or hardpan. The available water capacity is moderate. Depth to bedrock is more than 60 inches. The seasonal high water table is at a depth of 1.5 to 2.5 feet from November through May. The hardpan is at a depth of 18 to 32 inches, and limits the rooting depth of plants. Potential frost action is high.

Most areas of this soil are wooded. A few areas are used as homesites or for unimproved pasture.

This soil is not suited to cultivated crops and hay and poorly suited to pasture, because of stone cover and slope. Removal of the stones and trees will improve the suitability of this soil for pasture.

Potential productivity of eastern white pine on this soil is high. Slope is a limitation, and erosion is a moderate hazard. In some years the seasonal high water table hinders logging operations in spring or during prolonged wet periods. Scheduling logging activities during dry periods or in winter when the ground is frozen helps prevent rutting on woodland access roads and skidder trails. Woodland access roads constructed on the contour, proper sizing and installation of culverts, and water bars spaced appropriately along the roadway help control erosion.

Slope, the seasonal high water table, slow permeability in the hardpan, and potential frost action severely limit use of this soil for urban development. On construction sites, quickly establishing a vegetative cover helps control erosion.

This soil is in capability subclass VIs.

107—Rippowam-Saco complex. This map unit consists of nearly level, poorly drained and very poorly drained soils adjacent to the main stream channel, and commonly has stream overflow channels or old oxbows within. It is about 40 percent poorly drained Rippowam soil, 35 percent very poorly drained Saco soil, and 25 percent other soils. Areas of the map unit are in such an intricate pattern on the flood plains that they could not be mapped separately at the scale selected for mapping. They are long and narrow or irregular in shape, and range from 4 to 60 acres in size. Slopes range from 0 to 3 percent but are dominantly less than 2 percent.

Typically, the surface layer of the Rippowam soil is very dark grayish brown and dark grayish brown fine sandy loam about 9 inches thick. The substratum extends to a depth of 60 inches or more. It is, proceeding downward, olive brown fine sandy loam, dark grayish brown fine sandy loam, olive gray sandy loam, and dark grayish brown very gravelly sand.

Typically, the surface layer of the Saco soil is very dark gray mucky silt loam and very dark grayish brown silt loam about 12 inches thick. The substratum to a depth of 60 inches or more is gray and dark gray silt loam.

Included with this complex in mapping are small areas of Limerick, Chocorua, Ossipee, Pootatuck, Occum, and Suncook soils. Also included are some areas of soils that are similar to these Rippowam and Saco soils but that have a gravelly or very gravelly surface layer, have a sandy surface layer, or are gravelly or very gravelly in the upper part of the substratum. Also included are areas of soils that have stones and boulders on the surface and areas of open water.

Permeability of the Rippowam soil is moderate or moderately rapid in the surface layer and the upper part of the substratum and rapid or very rapid in the lower part of the substratum. The available water capacity is moderate. Depth to bedrock is more than 60 inches. The seasonal high water table is between the surface and a depth of 1.5 feet from September through June. The soil is subject to frequent flooding from October through May. Potential frost action is high.

Permeability of the Saco soil is moderate. The available water capacity is high. Depth to bedrock is more than 60 inches. The seasonal high water table is between the surface and a depth of 0.5 foot from September through June. The soil is subject to frequent flooding from October through May. Potential frost action is high.

Most areas of the soils in this complex are used for poor quality hardwood trees. A few areas are covered by shrubs and water-tolerant herbaceous plants.

Frequent flooding and the seasonal high water table are severe limitations of these soils for most uses other than as habitat for wetland wildlife.

These soils are in capability subclass VIw.

108—Hadley silt loam. This is a nearly level, well drained soil on flood plains along the Connecticut River and the larger streams flowing into the Connecticut River. Areas of this soil are long and narrow and range from 4 to 70 acres in size. Slopes range from 0 to 3 percent but are dominantly less than 2 percent.

Typically, the surface layer is very dark grayish brown silt loam about 11 inches thick. The substratum to a depth of 60 inches or more is olive gray silt loam.

Included with this soil in mapping are small areas of Winooski soils in low spots. Also included are small areas of soils that have layers of gravelly sand, gravelly loamy sand, sand, or loamy sand in the substratum. These soils make up as much as 10 percent of the map unit.

Permeability of this Hadley soil is moderate in the surface layer and moderate or moderately rapid in the substratum. The available water capacity is high. Depth to bedrock is more than 60 inches. The seasonal high water table is at a depth of 4 to 6 feet from November through April. Potential frost action is high. The soil is subject to occasional flooding, usually from February through April.

Most areas of this soil are used for cultivated crops. A few areas are used for hay or pasture or are wooded.

This soil is well suited to corn, grasses, legumes, and vegetable crops. It can be cropped continuously (fig. 10). Cover crops help to control erosion during periods of occasional flooding. A permanent strip of sod along streambanks helps control streambank erosion.

Potential productivity of eastern white pine on this soil is very high. There are few or no limitations to forest management or logging operations.

Flooding is the main limitation to use of this soil for urban development. Roads and streets need to be built up above flood levels. They also need to be carefully designed to prevent the damage caused by frost heave.

This soil is in capability subclass I.

109—Limerick silt loam. This is a nearly level, poorly drained soil, generally in the low-lying areas of flood plains. Areas of this soil are long and narrow and range from 4 to 20 acres in size. Slopes range from 0 to 2 percent.

Typically, the surface layer is very dark grayish brown silt loam about 3 inches thick. The substratum extends to a depth of 60 inches or more. It is, proceeding

Figure 10.—This area of Hadley silt loam is used for corn silage.

downward, dark grayish brown silt loam, dark gray very fine sandy loam, dark gray silt loam, and dark gray very fine sandy loam.

Included with this soil in mapping are small areas of moderately well drained Winooski soils on higher rises and very poorly drained Saco soils within depressions and old oxbows. Also included, randomly intermixed throughout the map unit, are small areas of Rippowam soils. The included soils make up 15 percent of the map unit.

Permeability of this Limerick soil is moderate. The available water capacity is high. Depth to bedrock is more than 60 inches. The seasonal high water table is at a depth of 0.5 to 1.5 feet from November through June. The soil is subject to frequent flooding, generally from January through June. Potential frost action is high.

Most areas of this soil are covered with water-tolerant trees, herbaceous plants, or shrubs. A few areas are used for unimproved pasture.

This soil is poorly suited to cultivated crops, grasses, and legumes. The main limitation is the seasonal high water table. Subsurface drainage or open ditches can improve the soil for agricultural use. In some years flooding can damage crops. Cover crops help reduce surface scouring by floodwater.

Potential productivity of eastern white pine on this soil is high. The seasonal high water table limits most types of forest management and logging operations.

The seasonal high water table and frequent flooding severely limit use of this soil for urban development. In urban areas these soils can be used for open space or natural floodwater storage areas.

This soil has good potential for use as habitat for wetland wildlife.

This soil is in capability subclass IVw.

142B—Monadnock fine sandy loam, 3 to 8 percent slopes. This is a gently sloping, well drained soil on plains and hilltops of glaciated uplands. Areas of this soil are oval or irregular in shape, and range from 4 to 30 acres in size.

Typically, the surface layer is brown fine sandy loam about 8 inches thick. The subsoil is about 15 inches thick. It is reddish brown fine sandy loam in the upper part and yellowish brown fine sandy loam in the lower part. The substratum to a depth of 60 inches or more is olive gravelly loamy sand.

Included with this soil in mapping are small areas of Sunapee, Becket, and Skerry soils. Sunapee and Skerry soils are in low spots. Becket soils are on smoother side slopes. Also included are small areas of soils that are similar to this Monadnock soil but that are sandy in the upper part of the subsoil. These soils make up as much as 15 percent of the map unit. Berkshire soils, which are similar to this Monadnock soil, make up as much as 10 percent of the map unit.

Permeability of this Monadnock soil is moderate above the substratum and moderately rapid in the substratum. The available water capacity is moderate. Depth to bedrock is generally more than 60 inches. The seasonal high water table is at a depth of more than 6 feet. Potential frost action is low.

Many areas of this soil are used for hay or pasture. Some areas are used for cultivated crops. A few areas that had been cleared of stones and trees have reverted naturally to woodland or have been planted to pine. A few areas are used as homesites.

This soil is suited to cultivated crops, grasses, and legumes. Under good management, it can be cropped continuously. Contour farming, conservation tillage, diversions, and grasses and legumes included in the cropping system help control erosion. Cover crops and crop residue returned to the soil help maintain soil tilth and the organic matter content. Good crop yields can be obtained under a high level of management including timely application of lime and fertilizer. In pasture management, deferred grazing, stocking rates within carrying capacity, and rotation grazing help improve pasture productivity.

Potential productivity of eastern white pine on this soil is high. There are few limitations to forest management and logging operations.

This soil is suited to urban development. On construction sites, establishing a vegetative cover helps control erosion. This soil is a probable source of sand for use in construction.

This soil is in capability subclass IIe.

142C—Monadnock fine sandy loam, 8 to 15 percent slopes. This is a strongly sloping, well drained soil on plains, hilltops, and side slopes of glaciated uplands. Areas of this soil are oval or irregular in shape, and range from 4 to 30 acres in size.

Typically, the surface layer is brown fine sandy loam about 8 inches thick. The subsoil is reddish brown fine sandy loam in the upper part and yellowish brown fine sandy loam in the lower part. The subsoil is about 15 inches thick. The substratum to a depth of 60 inches or more is olive gravelly loamy sand.

Included with this soil in mapping are small areas of Sunapee and Skerry soils in low spots and Becket soils on smoother side slopes. Also included are small areas of soils that are similar to this Monadnock soil but are sandy in the upper part of the subsoil. These soils make up as much as 15 percent of the map unit. Berkshire soils, which are similar to this Monadnock soil, make up as much as 10 percent of the map unit.

Permeability of this Monadnock soil is moderate above the substratum and moderately rapid in the substratum. The available water capacity is moderate. Depth to bedrock is generally more than 60 inches. The seasonal high water table is at a depth of more than 6 feet. Potential frost action is low.

Most areas of this soil are used for hay. Some areas are used for cultivated crops, pasture, or residential development. A few areas that had been cleared of stones and trees have reverted naturally to woodland or have been planted to pine.

This soil is poorly suited to cultivated crops. Slope is a limitation. Erosion is a hazard. Stripcropping, contour farming, conservation tillage, diversions, and grasses and legumes included in the cropping system help control erosion. Cover crops and crop residue returned to the soil help maintain soil tilth and organic matter content. The soil is suited to hay and pasture. Good yields of hay can be obtained under a high level of management, including timely applications of lime and fertilizer. In pasture management, deferred grazing, stocking rates within carrying capacity, and rotation grazing help improve pasture productivity.

Potential productivity for eastern white pine on this soil is high. There are few limitations to forest management and logging operations. Constructing logging roads on the contour help control erosion.

This soil is suited to urban development. Slope is a limitation, and land grading is generally needed. On construction sites, establishing a vegetative cover helps control erosion. The soil is a probable source of sand for use in construction.

This soil is in capability subclass IIIe.

143B—Monadnock fine sandy loam, 3 to 8 percent slopes, very stony. This is a gently sloping, well drained soil on glaciated upland plains and hilltops. Areas of this soil are generally oval and range from 4 to 30 acres in size. Stones, on average, 20 inches in diameter are 10 to 50 feet apart and cover 0.5 to 3 percent of the surface.

Typically, the surface layer is brown fine sandy loam about 3 inches thick. The subsurface layer is light brownish gray sandy loam about 2 inches thick. The subsoil is about 18 inches thick. It is reddish brown fine sandy loam in the upper part and yellowish brown fine sandy loam in the lower part. The substratum to a depth of 60 inches or more is olive gravelly loamy sand.

Included with this soil in mapping are small areas of Lyme, Sunapee, Becket, and Tunbridge soils. Lyme and Sunapee soils are in low spots. Becket soils are on smooth side slopes. Tunbridge soils are on the tops of rises and knolls. These soils make up as much as 15 percent of the map unit. Berkshire soils, which are similar to this Monadnock soil, make up as much as 10 percent of the map unit.

Permeability of this Monadnock soil is moderate above the substratum and moderately rapid in the substratum. The available water capacity is moderate. Depth to bedrock is generally more than 60 inches. The seasonal high water table is at a depth of more than 6 feet. Potential frost action is low.

Most areas of this soil are wooded. A few areas are used for unimproved pasture or residential development.

This soil is not suited to cultivated crops and hay and poorly suited to pasture, because of stones on the surface. Surface stones hinder use of equipment and restrict pasture management practices. Removal of stones and trees will improve the suitability of this soil for agricultural use.

Potential productivity of eastern white pine on this soil is high. There are few limitations to forest management and logging operations.

This soil is suited to urban development. Removing stones will increase the cost of constructing. The soil is a probable source of sand for use in construction.

This soil is in capability subclass VIs.

143C—Monadnock fine sandy loam, 8 to 15 percent slopes, very stony. This is a strongly sloping, well drained soil on hilltops, side slopes, and plains of glaciated uplands. Areas of this soil are generally oblong or irregular in shape, and range from 4 to 100 acres in size. Stones, on average, 20 inches in diameter are 10 to 50 feet apart and cover 0.5 to 3 percent of the surface.

Typically, the surface layer is brown fine sandy loam about 3 inches thick. The subsurface layer is light brownish gray sandy loam about 2 inches thick. The subsoil is about 18 inches thick. It is reddish brown fine sandy loam in the upper part and yellowish brown fine sandy loam in the lower part. The substratum to a depth of 60 inches or more is olive gravelly loamy sand.

Included with this soil in mapping are small areas of Lyme, Sunapee, Becket, and Tunbridge soils. Lyme and Sunapee soils are in low spots and along drainageways. Becket soils are on smooth side slopes. Tunbridge soils are on the tops of rises and knolls. These soils make up as much as 15 percent of the map unit. Berkshire soils are similar to this Monadnock soil and make up as much as 15 percent of the map unit. Also included are small areas of soils that have an extremely stony or bouldery surface.

Permeability of this Monadnock soil is moderate above the substratum and moderately rapid in the substratum. The available water capacity is moderate. Depth to bedrock is generally more than 60 inches. The seasonal high water table is at a depth of more than 6 feet. Potential frost action is low.

Most areas of this soil are wooded. A few areas are used for unimproved pasture or as homesites.

This soil is not suited to cultivated crops and hay and poorly suited to pasture, because of stones on the surface. The very stony surface hinders use of equipment and restricts pasture management practices. Removal of stones and trees will improve the suitability of the soil for agricultural use.

Potential productivity of eastern white pine on this soil is high. There are few limitations to forest management

or logging operations. Constructing woodland access roads on the contour helps control erosion.

This soil is suited to urban development. Slope and stone cover are limitations. Removing stones and land grading will increase the cost of construction. On construction sites, establishing a plant cover helps control erosion. The soil is a probable source of sand for use in construction.

This soil is in capability subclass VIs.

143D—Monadnock fine sandy loam, 15 to 25 percent slopes, very stony. This is a moderately steep, well drained soil on side slopes of hills and mountains of glaciated uplands. Areas of this soil are generally irregular in shape or oblong, and range from 4 to 300 acres in size. Stones, on average, 20 inches in diameter are 10 to 50 feet apart and cover 0.5 to 3 percent of the surface.

Typically, the surface layer is brown fine sandy loam about 3 inches thick. The subsurface layer is light brownish gray sandy loam about 2 inches thick. The subsoil is about 18 inches thick. It is reddish brown fine sandy loam in the upper part and yellowish brown fine sandy loam in the lower part. The substratum to a depth of 60 inches or more is olive gravelly loamy sand.

Included with this soil in mapping are small areas of Lyme, Sunapee, Colton, Becket, and Tunbridge soils. Lyme and Sunapee soils are in low spots and along drainageways. Colton soils are on small kames or knolls. Becket soils are on smoother side slopes. Tunbridge soils are on the tops of rises. These soils make up as much as 15 percent of the map unit. Berkshire soils, which are similar to this Monadnock soil, make up as much as 10 percent of the map unit. Also included are small areas of soils that have an extremely stony or bouldery surface.

Permeability of this Monadnock soil is moderate above the substratum and moderately rapid in the substratum. The available water capacity is moderate. Depth to bedrock is generally more than 60 inches. The seasonal high water table is at a depth of more than 6 feet. Potential frost action is low.

Most areas of this soil are wooded. A few areas are used for unimproved pasture or as homesites.

This soil is not suited to cultivated crops and hay and is poorly suited to pasture, because of stones on the surface and slope. The stony surface and moderately steep slopes hinder equipment operation and restrict pasture management practices. Removal of stones and trees will improve the suitability of this soil for pasture.

Potential productivity of eastern white pine on this soil is high. Slope limits use of equipment. Woodland roads constructed on the contour, properly sized and installed culverts, and water bars spaced at appropriate intervals along the roadway help control erosion.

Slope is the main limitation to use of this soil for urban development. On construction sites, quickly establishing a plant cover helps control erosion. The soil is a probable source of sand for use in construction.

This soil is in capability subclass VIs.

161E—Lyman-Tunbridge-Rock outcrop complex, 25 to 50 percent slopes. This map unit consists of steep and very steep soils and areas of exposed bedrock on steep side slopes of hills and mountains of glaciated uplands. It is about 40 percent somewhat excessively drained, shallow Lyman soil, 30 percent well drained, moderately deep Tunbridge soil, 20 percent exposed bedrock, and 10 percent other soils. Areas of this map unit are in such an intricate pattern on the landscape that they could not be mapped at the scale selected for mapping. They are generally irregular in shape and range from 10 to 600 acres in size. Stones, on average, 20 inches in diameter are 10 to 50 feet apart and cover 0.5 to 3 percent of the surface.

Typically, the surface layer of the Lyman soil is a well decomposed organic mat about 1 inch thick. The subsoil is about 15 inches thick. It is yellowish red and strong brown fine sandy loam in the upper part and yellowish brown gravelly fine sandy loam in the lower part. Granitic bedrock is at a depth of 16 inches.

Typically, the surface layer of the Tunbridge soil is black fine sandy loam about 4 inches thick. The subsoil is about 22 inches thick. It is, proceeding downward, yellowish red fine sandy loam, strong brown gravelly fine sandy loam, yellowish brown gravelly fine sandy loam, and brownish yellow gravelly fine sandy loam. Mica schist bedrock is at a depth of 26 inches.

Included with this complex in mapping are small areas of Sunapee and Lyme soils in low spots and along drainageways and Monadnock, Berkshire, and Marlow soils on steep side slopes. Also included are areas that have slopes of more than 35 percent, areas where rock outcrops cover 20 to 80 percent of the surface, and areas that have a very stony or bouldery surface.

Permeability of the Lyman soil is moderately rapid. The available water capacity is low. Depth to bedrock is 8 to 20 inches. Potential frost action is moderate.

Permeability of the Tunbridge soil is moderate or moderately rapid. The available water capacity is moderate. Depth to bedrock is 20 to 40 inches. Potential frost action is moderate.

All areas of the soils in this complex are wooded. Slope, depth to bedrock, and areas of exposed bedrock severely limit these soils for agricultural use and urban development.

Potential productivity of eastern white pine is high on the Lyman soil and very high on the Tunbridge soil. The use of equipment in logging operations and forest management is limited and commonly impractical because of the steep and very steep slopes and areas of exposed bedrock.

This soil is in capability subclass VIIs.

168B—Sunapee fine sandy loam, 3 to 8 percent slopes. This is a gently sloping, moderately well drained soil on broad, low-lying plains and lower slopes of glaciated uplands. Areas of this soil are generally oblong and range from 4 to 40 acres in size.

Typically, the surface layer is very dark grayish brown fine sandy loam about 8 inches thick. The subsoil is about 17 inches thick. It is dark brown fine sandy loam in the upper part and mottled, yellowish brown fine sandy loam in the lower part. The substratum extends to a depth of 60 inches or more. It is mottled, light yellowish brown sandy loam in the upper part and a mottled, olive sandy loam in the lower part.

Included with this soil in mapping are small areas of Berkshire, Monadnock, and Becket soils on rises and Lyme and Moosilauke soils in low spots. Also included are small areas of Skerry and Peru soils on smoother slopes. These soils make up as much as 15 percent of the map unit. Also included are some areas of soils that are similar to this Sunapee soil, but are sandy in the lower part of the subsoil and in the substratum. These similar soils make up as much as 20 percent of the map unit. Also included are a few areas of soils that have slopes of less than 3 percent.

Permeability of this Sunapee soil is moderate above the substratum and moderate or moderately rapid in the substratum. The available water capacity is high. Depth to bedrock is more than 60 inches. The seasonal high water table is at a depth of 1.5 to 3 feet from November through May. Potential frost action is moderate.

Most areas of this soil are used for hay or pasture. Some areas that had been cleared of trees and stones and farmed at one time either have reverted to woodland naturally or have been planted to pine. A few areas are used as homesites.

This soil is suited to cultivated crops, hay, and pasture. The seasonal high water table is a limitation. The soil dries out and warms up slowly in spring; consequently, the choice of crops is restricted and cultivation and planting are delayed. Tile drainage improves the suitability of this soil for cultivation. Conservation tillage and cover crops helps control erosion. Under a high level of management, good yields of hay can be obtained. In pasture management, deferred grazing, stocking rates within carrying capacity, and rotation grazing help increase pasture productivity. Delaying grazing during wet periods helps prevent damage caused by animal traffic to the surface layer.

Potential productivity of eastern white pine on this soil is very high. There are few restrictions to forest management and logging operations. Logging during wet periods ruts skid trails and roadways. Scheduling logging operations during dry periods or in winter when the ground is frozen helps prevent rutting.

The seasonal high water table is a limitation to use of this soil for urban development. Careful design and installation of septic tank absorption fields are needed. Raised absorption beds are a common design used on this soil. Curtain drains around foundations and sealed foundation walls help prevent wet basements. Using coarser grained subgrade or base material helps prevent the damage to local roads and streets caused by frost heave.

This soil is in capability subclass IIw.

169B—Sunapee fine sandy loam, 3 to 8 percent slopes, very stony. This is a gently sloping, moderately well drained soil along drainageways, in slight depressions of till plains, and on lower slopes of glaciated uplands. Areas of this soil are irregular in shape or long and narrow and range from 3 to 80 acres in size. However, most areas are between 5 and 15 acres in size. Stones, on average, 20 inches in diameter are 10 to 15 feet apart and cover 0.5 to 3 percent of the surface.

Typically, the surface layer is very dark grayish brown fine sandy loam about 3 inches thick. The subsoil is about 22 inches thick. It is dark reddish brown and dark brown fine sandy loam in the upper part and mottled, yellowish brown fine sandy loam in the lower part. The substratum extends to a depth of 60 inches or more. It is mottled, light yellowish brown sandy loam in the upper part and mottled, olive sandy loam in the lower part.

Included with this soil in mapping are small areas of Berkshire, Monadnock, and Becket soils on rises and Lyme and Moosilauke soils in low spots. Also included are small areas of Skerry and Peru soils on smoother side slopes. These soils make up as much as 15 percent of the map unit. Also included are some areas of soils that are similar to this Sunapee soil, but are sandy in the lower part of the subsoil and in the substratum. These similar soils make up as much as 20 percent of the map unit. Also included are a few areas of soils that have an extremely stony surface.

Permeability of this Sunapee soil is moderate above the substratum and moderate or moderately rapid in the substratum. The available water capacity is high. Depth to bedrock is more than 60 inches. The seasonal high water table is at a depth of 1.5 to 3 feet from November through May. Potential frost action is moderate.

Most areas of this soil are wooded. A few areas are used as homesites or unimproved pasture.

This soil is not suited to cultivated crops and hay and poorly suited to pasture, because of stones on the surface. Removal of stones and trees will improve the suitability of this soil for farming.

Potential productivity of eastern white pine on this soil is very high. There are few restrictions to forest management and logging operations. Logging operations during wet periods rut woodland access roads. Scheduling logging operations during dry periods or in winter when the ground is frozen helps prevent damage to the soil surface.

The seasonal high water table is a limitation to use of this soil for urban development. Careful design and installation are needed for septic tank absorption fields. Raised absorption beds are a common design used on this soil. Curtain drains around foundations and sealed foundation walls help prevent wet basements. Using coarser grained subgrade or base material helps prevent the damage to local roads and streets caused by frost heave.

This soil is in capability subclass VIs.

169C—Sunapee fine sandy loam, 8 to 15 percent slopes, very stony. This is a strongly sloping, moderately well drained soil along drainageways, in slight depressions, and on lower slopes of glaciated uplands. Areas of this soil are irregular in shape or oblong, and range from 3 to 40 acres in size. Stones, on average, 20 inches in diameter are 10 to 50 feet apart and cover 0.5 to 3 percent of the surface.

Typically, the surface layer is very dark grayish brown fine sandy loam about 3 inches thick. The subsoil is about 22 inches thick. It is dark reddish brown and dark brown fine sandy loam in the upper part and mottled, yellowish brown fine sandy loam in the lower part. The substratum extends to a depth of 60 inches or more. It is mottled, light yellowish brown sandy loam in the upper part and a mottled, olive sandy loam in the lower part.

Included with this soil in mapping are small areas of Berkshire, Monadnock, and Becket soils on rises and Lyme and Moosilauke soils in low spots. Also included are small areas of Skerry and Peru soils on smoother side slopes. These soils make up as much as 15 percent of the map unit. Also included are some areas of soils that are similar to this Sunapee soil, but that have sandy textures in the lower part of the subsoil and in the substratum. These similar soils make up as much as 20 percent of the map unit. Also included are a few areas of soils that have an extremely stony surface.

Permeability of this Sunapee soil is moderate above the substratum and moderate or moderately rapid in the substratum. The available water capacity is high. Depth to bedrock is more than 60 inches. The seasonal high water table is at a depth of 1.5 to 3 feet from November through May. Potential frost action is moderate.

Most areas of this soil are wooded. A few areas are used as homesites or for unimproved pasture.

This soil is not suited to cultivated crops and hay and is poorly suited to pasture. The main limitations are stones on the surface, slope, and the seasonal high water table. Removal of surface stones and trees and installation of tile drainage will improve the suitability of this soil for farming.

Potential productivity of eastern white pine on this soil is very high. There are few restrictions to forest management and logging operations. Logging operations during wet periods increases the hazard of erosion and damages woodland access roads. Constructing woodland access roads on the contour helps control erosion. Scheduling logging operations during dry periods or in winter when the ground is frozen helps prevent damage to the soil surface.

The seasonal high water table, surface stones, and slope are limitations to use of this soil for urban development. Careful design and installation are needed for septic tank absorption fields. Raised absorption beds are a common design used on this soil. Curtain drains around foundations, interceptor drains upslope from the foundation, and sealed foundation walls help prevent wet basements. Using coarser grained subgrade or base material helps prevent the damage to local roads and streets caused by frost heave.

This soil is in capability subclass VIs.

197—Borohemists, ponded. This map unit consists of nearly level, very poorly drained soils in marshes, in beaver ponds, and along the borders of lakes, ponds, and major streams. These soils consist of moderately decayed organic material 16 to more than 51 inches thick. They are covered by shallow water most of the time (fig. 11). Areas generally are irregular in shape around lakes and ponds and long and narrow in beaver ponds and along stream channels. They range from 3 to 50 acres in size. Slopes are 0 to 1 percent.

Included with these soils in mapping are small areas of Searsport, Saco, Raynham, and Lyme soils. Included soils and open water make up as much as 10 percent of the map unit.

Most areas of these soils are covered by aquatic grasses, reeds, cattails, and sedges. In wooded areas ponded by beaver dams, the trees commonly are dead or dying because of the raised water level.

These soils are not suitable for most uses other than as habitat for wetland wildlife because of ponding and the seasonal high water table.

These soils are in capability subclass VIIIw.

214—Naumburg loamy fine sand. This is a nearly level, poorly drained or somewhat poorly drained soil in depressions on glacial outwash plains and stream terraces. Areas of this soil are generally irregular in shape or oblong. They range from 3 to 120 acres in size, but most areas range from 5 to 15 acres. Slopes range from 0 to 3 percent.

Typically, the surface is covered with a slightly decomposed organic mat about 3 inches thick. The surface layer is dark gray loamy fine sand about 3 inches thick. The subsoil is 21 inches thick and is mottled. It is, proceeding downward, dark brown loamy fine sand, dark brown sand, and light olive brown sand. The substratum extends to a depth of 60 inches or more. It is mottled, light olive gray fine sand in the upper part and mottled, light yellowish brown sand in the lower part.

Included with this soil in mapping are small areas of Croghan and Adams soils on rises and Searsport soils in

Figure 11.—This is an area of Borohemists, ponded.

the lowest part of depressions. Also included, randomly intermixed throughout the map unit, are areas of Moosilauke and Wareham soils. These soils make up as much as 15 percent of the map unit. Also included are some areas of soils that are similar to this Naumburg soil, but have silt and very fine sand in the lower part of the substratum or fine sandy loam in the upper part of the subsoil. These similar soils make up as much as 10 percent of the map unit. Also included are a few areas of soils that have slopes of more than 3 percent and a few areas of soils that have stones, boulders, or both, on the surface.

Permeability of this Naumburg soil is moderately rapid in the surface layer and rapid in the subsoil and substratum. The available water capacity is low. Depth to bedrock is more than 60 inches. The seasonal high water table is between the surface and a depth of 1.5 feet from December through April. Potential frost action is moderate.

Most areas of this soil are wooded. Some areas are used for hay or pasture. A few areas are used for residential development.

This soil is poorly suited to cultivated crops, hay, and pasture, because of the seasonal high water table. Tile drainage or open ditches, where a suitable outlet is available, improves the suitability of this soil for some farming uses. The soil dries out and warms up slowly in spring; consequently, early cultivation and planting are delayed, and the choice of crops is restricted. In pasture management, deferred grazing, stocking rates within carrying capacity, and rotation grazing help improve pasture productivity. Restricted grazing during wet periods helps prevent damage caused by animal traffic to the surface layer.

Potential productivity of eastern white pine on this soil is high. Windthrow is a moderate hazard, and seedling mortality is severe. The seasonal high water table limits use of equipment. Scheduling logging operations during the driest period of the year or in winter when the ground is frozen ensures easier equipment operation and helps prevent rutting on woodland access roads and skid trails.

The seasonal high water table severely limits use of this soil for urban development. Potential of the soil is good for use as habitat for wetland wildlife.

This soil is in capability subclass IVw.

218—Raynham-Wareham complex, occasionally flooded. This map unit consists of nearly level, poorly drained soils on the lowest level of the old glacial lake plain in the area south and southwest of the city of Keene and west of the Ashuelot River. Elevations are 460 to 480 feet. It is about 45 percent poorly drained Raynham soil, about 35 percent poorly drained Wareham soil, and 20 percent other soils. Areas of this map unit are in such an intricate pattern on the landscape that they could not be mapped separately at the scale selected for mapping. The most extensive area is broad and irregular in shape and more than 700 acres in size. A few areas are small and oblong and are about 5 to 10 acres in size. Slopes range from 0 to 3 percent but are dominantly less than 2 percent.

Typically, the surface layer of the Raynham soil is very dark grayish brown silt loam about 11 inches thick. The subsoil is about 14 inches thick. It is mottled, dark grayish brown silt loam in the upper part and mottled, light olive brown silt loam in the lower part. The substratum to a depth of 60 inches or more is mottled, dark grayish brown very fine sandy loam.

Typically, the surface layer of the Wareham soil is very dark grayish brown loamy fine sand about 9 inches thick. The subsoil is mottled, grayish brown loamy fine sand about 9 inches thick. The substratum extends to a depth of 60 inches or more. It is, proceeding downward, grayish brown sand, olive gray sand, and dark grayish brown sand.

Included with this unit in mapping are areas of poorly drained soils that are randomly intermixed throughout. These included soils have mixed layers of silt loam, fine sandy loam, loamy sand, loamy fine sand, fine sand, and sand and thin layers of well decomposed organic material.

Permeability of the Raynham soil is moderate in the surface layer and subsoil and slow in the substratum. The available water capacity is high. Depth to bedrock is more than 60 inches. The seasonal high water table is at a depth of 0.5 to 2 feet from November through May. Potential frost action is high. The soil is subject to occasional flooding from March through May.

Permeability of the Wareham soil is rapid. The available water capacity is low. Depth to bedrock is more than 60 inches. The seasonal high water table is between the surface and a depth of 1.5 feet from September through June. Potential frost action is moderate. The soil is subject to occasional flooding from March through May.

Areas of the soils in this complex are in a variety of land uses, including industrial, commercial, recreation, and residential development. Some areas are used for hay or cultivated crops or are wooded. All areas of these soils are in a drainage project and have open ditches that help lower the water table.

These soils are poorly suited to cultivated crops, hay, and pasture, because of wetness. Open ditches have improved the suitability of this complex for farming. These soils dry out and warm up slowly in spring; consequently cultivation and planting are delayed. In some wet years, the seasonal high water table restricts harvesting. The soils are suited to water-tolerant grasses.

Potential productivity of eastern white pine on the Raynham and Wareham soils is high. The seasonal high water table restricts logging operations and forest management. Logging in winter when the ground is frozen helps prevent damage by equipment to the surface layer and to woodland access roads. Seedling mortality is severe and windthrow is a severe hazard.

The seasonal high water table and occasional flooding severely limit use of these soils for urban development. Potential of these soils is fair for use as habitat for wetland wildlife.

These soils are in capability subclass IVw.

230E—Poocham very fine sandy loam, 25 to 70 percent slopes. This is a steep or very steep, well drained soil on terrace escarpments along the Connecticut River and its tributaries. Areas of this soil are irregular in shape or long and narrow, and range from 5 to 120 acres in size.

Typically, the surface layer is very dark grayish brown very fine sandy loam about 2 inches thick. The subsoil is about 11 inches thick. It is dark grayish brown and olive brown very fine sandy loam in the upper part and olive brown very fine sandy loam in the lower part. The substratum extends to a depth of 60 inches or more. It is olive and olive gray silt loam in the upper part and olive very fine sandy loam in the lower part.

Included with this soil in mapping are small areas of Windsor soils on the upper part of the escarpment and small areas of Scio and Raynham soils along drainageways. In some areas where slippage has recently occurred, small areas of exposed substratum material do not have vegetative cover. Also included are small areas that have slopes of less than 25 percent. These soils make up as much as 20 percent of the map unit.

Permeability of this Poocham soil is moderate above the substratum and moderately slow or moderate in the substratum. The available water capacity is high. Depth

to bedrock is more than 60 inches. The seasonal high water table is at a depth of more than 6 feet. Potential frost action is high.

Most areas of this soil are wooded. A few areas are used for pasture.

This soil is not suited to cultivated crops, hay, and pasture, because of slope and the severe hazard of erosion.

Potential productivity of eastern white pine on this soil is very high. Erosion is a severe hazard. Slope limits use of equipment. In most areas use of equipment is impractical. Constructing woodland access roads in adjacent areas that are not as steep is a suitable management practice.

Slope, slippage, and frost heave are severe limitations to use of this soil for urban development. Slopes or banks of excavated areas are unstable.

This soil is in capability subclass VIIe.

295—Greenwood mucky peat. This is a nearly level, very poorly drained soil in depressions on outwash plains, terraces, and glaciated uplands and along borders of lakes, ponds, and streams. Areas generally are irregular in shape, and range from 5 to 200 acres. Slopes range from 0 to 2 percent but are dominantly less than 1 percent.

Typically, this soil consists of layers of moderately decomposed organic material to a depth of 60 inches or more. The layers are black, very dark grayish brown, dark reddish brown, and very dark gray.

Included with this soil in mapping, generally around the borders of the map unit, are small areas of Chocorua, Ossipee, Searsport, and Saco soils. Also included are areas of soils that consist of well decomposed organic material. The included soils make up as much as 10 percent of the map unit.

Permeability of this Greenwood soil is moderate or moderately rapid. The available water capacity is high. Depth to bedrock is more than 60 inches. The seasonal high water table is between 1 foot above the surface and 1 foot below the surface from September through June. Potential frost action is high.

Most areas of this soil are woodland that consists of water-tolerant tree species. The other areas are open marshes that support water-tolerant herbaceous plants. Some of these areas also have water-tolerant shrubs.

This soil is not suited to most uses other than as habitat for wetland wildlife because of the seasonal high water table or ponding and the instability of the organic material.

This soil is in capability subclass VIIw.

298—Pits, gravel. This map unit consists of excavations from which gravel or sand has been removed for use in construction. Areas mostly are on outwash plains and stream terraces and range from 3 to 100 acres in size. Most areas do not have vegetation, but scattered small areas have sparsely populated, drought-tolerant plants. Slopes on the floors of the pits range mostly from 0 to 3 percent, and those on the sides range from 35 to 80 percent.

Included with this unit in mapping are small intermingled areas of open water, exposures of bedrock, and areas where surface stones and boulders are on the pit floor.

This unit consists mostly of sand, or sand and gravel. Permeability is rapid or very rapid. The available water capacity is very low. Depth to bedrock generally is more than 60 inches. The seasonal high water table is quite variable, but commonly is near the surface of the pit floor.

This unit is not suited to farming or woodland use. Reclamation for these uses requires land grading, lime, fertilizer, and organic matter, and use of hardy, drought-tolerant plants. Onsite investigation is needed for any use in urban development.

This map unit has not been assigned to a capability subclass.

299—Udorthents, smoothed. This map unit consists of areas that have been filled with sandy or loamy soil material and a few areas of graded cutbanks. The filled areas are generally low spots on outwash plains, terraces, flood plains, and upland tills. They are generally in or near urban centers. The fill varies from 3 to more than several feet in thickness. The areas are generally rectangular or irregular in shape and range from 3 to 200 acres in size. Slopes range from 0 to 15 percent but are generally less than 3 percent.

Included with this unit in mapping are small areas of urban land where the surface is covered with asphalt, concrete, or buildings. Also included are small areas of nonsoil material, such as sawdust, bricks, boards, metals, glass, and other masonry materials.

Most areas of Udorthents, smoothed, are used for parking lots, playgrounds, airport runways, recreation facilities, homesites, and commercial or industrial development.

Some areas are suitable for lawns, trees, shrubs, or recreation uses, such as playgrounds, picnic areas, and parks. Other areas are suitable for use as homesites and for commercial or industrial development. Onsite investigation is generally needed to determine the suitability or limitations of an area of this map unit for most uses.

These soils are not assigned to a capability subclass.

330B—Bernardston silt loam, 3 to 8 percent slopes. This is a gently sloping, well drained soil on crests of hills of the glaciated uplands in the western part of the county. Many of the hills are smooth-sided and oval and have a northeast-southwest orientation. Areas are oblong or long and narrow, and range from 3 to 30 acres.

Typically, the surface layer is dark brown silt loam about 2 inches thick. The subsoil is about 23 inches thick. It is dark yellowish brown and light olive brown silt loam in the upper part and olive brown channery silt loam in the lower part. The substratum to a depth of 60 inches or more is very firm, dark grayish brown channery very fine sandy loam.

Included with this soil in mapping are small areas of Pittstown and Stissing soils in low spots and small areas of Dutchess soils on knolls. These soils make up as much as 10 percent of the map unit.

Permeability of this Bernardston soil is moderate in the surface layer and subsoil and slow in the firm, compacted substratum or hardpan. The available water capacity is moderate. Depth to bedrock is more than 60 inches. The perched seasonal high water table is at a depth of 1.5 to 3 feet from February through April. The hardpan is at a depth of 15 to 30 inches and limits the rooting depth of plants. Potential frost action is moderate.

Most areas of this soil are used for hay. Other areas are used for cultivated crops or pasture or as homesites. Some areas that had been cleared of stones and used for farming have been planted to pine or have naturally reverted to woodland.

This soil is suited to cultivated crops, grasses, legumes, and orchards. Conservation tillage, contour farming, stripcropping, diversions, and grasses and legumes included in the cropping system help control erosion. In some areas tile drainage is needed to remove excess water from seep spots, which are common in this map unit. Under good management including timely applications of lime and fertilizer, high yields can be obtained. In pasture management, deferred grazing, stocking rates within carrying capacity, and rotation grazing help improve pasture productivity.

Potential productivity of eastern white pine on this soil is high. There are few limitations to forest management or logging operations. Equipment operations in early spring or during wet periods can rut woodland access roads.

Slow permeability in the hardpan, slope, potential frost action, and the perched seasonal high water table in spring limit use of this soil for urban development. Careful design and installation are needed for septic tank absorption fields. Larger absorption beds and raised absorption fields are common designs used on this soil. Curtain drains around house foundations and sealed foundation walls help prevent wet basements. On construction sites, establishing plant cover helps control erosion. Using coarser grained subgrade or base material helps prevent the damage to local roads and streets caused by frost heave.

This soil is in capability subclass IIe.

330C—Bernardston silt loam, 8 to 15 percent slopes. This is a strongly sloping, well drained soil on hilltops and smooth, convex side slopes of glaciated uplands in the western part of the county. Many of these hills are smooth-sided and oval and have a northeast-southwest orientation. Areas are oblong or long and narrow, and range from 3 to 40 acres in size.

Typically, the surface layer is dark brown silt loam about 2 inches thick. The subsoil is about 23 inches thick. It is dark yellowish brown and light olive brown silt loam in the upper part and olive brown channery silt loam in the lower part. The substratum extends to a depth of 60 inches or more. It is very firm, dark grayish brown channery very fine sandy loam.

Included with this soil in mapping are small areas of Pittstown soils on lower, concave foot slopes and Stissing soils in low spots. Also included are small areas of Dutchess soils on knolls. These soils make up as much as 10 percent of the map unit.

Permeability is moderate in the surface layer and subsoil and slow in the firm, compacted substratum, or hardpan. The available water capacity is moderate. Depth to bedrock is more than 60 inches. The perched seasonal high water table is at a depth of 1.5 to 3 feet in February through April. The hardpan is at a depth of 15 to 30 inches and limits the rooting depth of plants. Potential frost action is moderate.

Most areas of this soil are used for hay. Other areas are used for cultivated crops or pasture or as homesites. Some areas that had been cleared of stones and used for farming have been planted to pine or have naturally reverted to woodland.

This soil is suited to grasses and legumes either for hay or pasture and to orchards. This soil is poorly suited to cultivated crops. The erosion hazard and slope limit the soil for cultivated crops. Conservation tillage, contour farming, stripcropping, diversions, and grasses and legumes included in the cropping system help control erosion. In some areas tile drainage is needed to remove excess water from seep spots, which are common on this map unit. Under good management including timely applications of lime and fertilizer, high yields for grasses and legumes can be obtained. In pasture management, deferred grazing, stocking rates within carrying capacity, and rotation grazing help improve pasture productivity.

Potential productivity of eastern white pine on this soil is high. There are few limitations to forest management and logging operations. Constructing woodland access roads on the contour help control erosion. Equipment operations in early spring or during wet periods increase the erosion hazard and rut woodland access roads.

Slow permeability in the hardpan, potential frost action, the perched seasonal high water table in spring, and slope limit use of this soil for urban development. Careful design and installation are needed for septic tank absorption fields. Larger absorption beds and raised absorption fields are common designs used on this soil. Curtain drains around house foundations, sealed foundation walls, and interceptor drains upslope from the

house foundation help prevent wet basements. On construction sites establishing a plant cover helps control erosion. Using coarser grained subgrade or base material helps prevent the damage to local roads and streets caused by frost heave.

This soil is in capability subclass IIIe.

330D—Bernardston silt loam, 15 to 25 percent slopes. This is a moderately steep, well drained soil on smooth, convex side slopes of glaciated uplands in the western part of the county. Many of the hills are smooth sided and oval and have a northeast-southwest orientation. Areas of the soil are long and narrow or irregular in shape, and range from 4 to 100 acres.

Typically, the surface layer is dark brown silt loam about 2 inches thick. The subsoil is about 23 inches thick. It is dark yellowish brown and light olive brown silt loam in the upper part and olive brown channery silt loam in the lower part. The substratum to a depth of 60 inches or more is very firm, dark grayish brown channery very fine sandy loam.

Included with this soil in mapping are small areas of Pittstown soils on lower, concave foot slopes and Stissing soils in low spots and along drainageways. Also included are small areas of Dutchess soils on knolls. These soils make up as much as 10 percent of the map unit.

Permeability of this Bernardston soil is moderate in the surface layer and subsoil and slow in the firm, compacted substratum, or hardpan. The available water capacity is moderate. Depth to bedrock is more than 60 inches. The perched seasonal high water table is at a depth of 1.5 to 3 feet from February through April. The hardpan is at a depth of 15 to 30 inches and limits the rooting depth of plants. Potential frost action is moderate.

Most areas of this soil are used for hay. Some areas are used for pasture. Other areas that had been cleared of stones and used for farming have been planted to pine or have naturally reverted to woodland. A few areas are used as homesites or for cultivated crops.

This soil is poorly suited to hay and pasture because of slope. It is not suited to cultivated crops because of slope and the erosion hazard. In pasture management, deferred grazing, stocking rates within carrying capacity, and rotation grazing help improve pasture productivity.

Potential productivity of eastern white pine on this soil is high. Slope limits the use of equipment. Constructing woodland access roads on the contour, installing culverts properly, and spacing water bars and diversions at appropriate distances along the roadway help control erosion. Equipment operations in early spring or during wet periods increase the erosion hazard and damage woodland access roads and skid trails.

Slow permeability in the hardpan and slope severely limit use of this soil for urban development. On construction sites quickly establishing a plant cover helps control erosion. Using coarser grained subgrade or base material helps prevent the damage to local roads and streets caused by frost heave.

This soil is in capability subclass IVe.

331C—Bernardston silt loam, 8 to 15 percent slopes, very stony. This is a strongly sloping, well drained soil on hilltops and smooth, convex side slopes of glaciated uplands in the western part of the county. Many of the hills are smooth sided and oval and have a northeast-southwest orientation. Areas are oblong or irregular in shape, and range from 5 to 40 acres in size. Stones, on average, 15 inches in diameter are 15 to 140 feet apart and cover 0.1 to 1 percent of the surface.

Typically, the surface layer is dark brown silt loam about 2 inches thick. The subsoil is about 23 inches thick. It is dark yellowish brown and light olive brown silt loam in the upper part and olive brown channery silt loam in the lower part. The substratum to a depth of 60 inches or more is very firm, dark grayish brown channery very fine sandy loam.

Included with this soil in mapping are small areas of Pittstown soils on lower, concave foot slopes and Stissing soils in low spots and along drainageways. Also included are small areas of Dutchess soils on knolls. These soils make up as much as 10 percent of the map unit.

Permeability of this Bernardston soil is moderate in the surface layer and subsoil and slow in the firm, compacted substratum, or hardpan. The available water capacity is moderate. Depth to bedrock is more than 60 inches. The perched seasonal high water table is at a depth of 1.5 to 3 feet from February through April. The hardpan is at a depth of 15 to 30 inches and limits the rooting depth of plants. Potential frost action is moderate.

Most areas of this soil are wooded. A few areas are used for unimproved pasture or as homesites.

This soil is not suited to cultivated crops and hay and is poorly suited to pasture and orchards because of surface stones. Stones restrict use of equipment. Removal of surface stones and trees will improve the suitability of this soil for agricultural use.

Potential productivity of eastern white pine on this soil is high. There are few limitations to forest management and logging operations. Constructing woodland access roads on the contour helps control erosion. Equipment operations in early spring or during wet periods increase the erosion hazard and damage woodland access roads and skid trails.

Slow permeability in the hardpan, the perched seasonal high water table in spring, potential frost action, stones on the surface, and slope limit use of the soil for urban development. Careful design and installation are needed for septic tank absorption fields. Larger absorption beds and raised absorption fields are common designs used on this soil. Curtain drains around

house foundations, sealed foundation walls, and interceptor drains upslope from the house foundation help prevent wet basements. On construction sites establishing a plant cover helps control erosion. Using coarser grained subgrade or base material helps prevent the damage to local roads and streets caused by frost heave.

This soil is in capability subclass VIs.

331D—Bernardston silt loam, 15 to 25 percent slopes, very stony. This is a moderately steep, well drained soil on smooth, convex side slopes of the glaciated uplands in the western part of the county. Many of the hills are smooth sided and oval and have a northeast-southwest orientation. Areas of this soil are long and narrow or irregular in shape, and range from 5 to 250 acres in size. Stones, on average, 15 inches in diameter are 15 to 140 feet apart and cover 0.1 to 1 percent of the surface.

Typically, the surface layer is dark brown silt loam about 2 inches thick. The subsoil is about 23 inches thick. It is dark yellowish brown and light olive brown silt loam in the upper part and olive brown channery silt loam in the lower part. The substratum to a depth of 60 inches or more is very firm, dark grayish brown channery very fine sandy loam.

Included with this soil in mapping are small areas of Pittstown soils on lower, concave foot slopes and Stissing soils in low spots and along drainageways. Also included are small areas of Dutchess and Cardigan soils on knolls. These soils make up as much as 15 percent of the map unit.

Permeability of this Bernardston soil is moderate in the surface layer and subsoil and slow in the firm, compacted substratum, or hardpan. The available water capacity is moderate. Depth to bedrock is more than 60 inches. The perched seasonal high water table is at a depth of 1.5 to 3 feet from February through April. The hardpan is at a depth of 15 to 30 inches and limits the rooting depth of plants. Potential frost action is moderate.

Most areas of this soil are wooded (fig. 12). A few areas are used for unimproved pasture or as homesites.

This soil is not suited to cultivated crops, hay, and orchards and poorly suited to pasture, because of surface stones and slope. Removal of surface stones and trees will improve the suitability of the soil for pasture.

Potential productivity of eastern white pine on this soil is high. Slope is a limitation to forest management and logging operations. Woodland access roads constructed on the contour, water bars spaced at appropriate intervals along the roadway, and properly installed and sized culverts help control erosion. Equipment operations in early spring or during wet periods increase the erosion hazard and damage woodland access roads and skid trails.

Slow permeability in the hardpan and slope severely limit use of this soil for urban development. On construction sites, quickly establishing a plant cover helps control erosion. Using coarser grained subgrade or base material helps prevent the damage to local roads and streets caused by frost heave.

This soil is in capability subclass VIs.

331E—Bernardston silt loam, 25 to 50 percent slopes, very stony. This is a steep and very steep, well drained soil on side slopes of glaciated uplands in the western part of the county. Many of the hills are smooth sided and oval and have a northeast-southwest orientation. Areas of this soil are long and narrow or irregular in shape, and range from 5 to 200 acres. Stones, on average, 15 inches in diameter are 15 to 140 feet apart and cover 0.1 to 1 percent of the surface.

Typically, the surface layer is dark brown silt loam about 2 inches thick. The subsoil is about 23 inches thick. It is dark yellowish brown and light olive brown silt loam in the upper part and olive brown channery silt loam in the lower part. The substratum to a depth of 60 inches or more is dark grayish brown, very firm channery very fine sandy loam.

Included with this soil in mapping are small areas of Pittstown soils on lower, concave foot slopes and Stissing soils in low spots and along drainageways. Also included are small areas of Dutchess and Cardigan soils on knolls. These soils make up as much as 15 percent of the map unit.

Permeability of this Bernardston soil is moderate in the surface layer and subsoil and slow in the firm, compacted substratum, or hardpan. The available water capacity is moderate. Depth to bedrock is more than 60 inches. The perched seasonal high water table is at a depth of 1.5 to 3 feet from February through April. The hardpan is at a depth of 15 to 30 inches and limits the rooting depth of plants. Potential frost action is moderate.

Most areas of this soil are wooded. A few areas are used for unimproved pasture.

This soil is not suited to cultivated crops and hay and poorly suited to pasture, because of slope and surface stones.

Potential productivity of eastern white pine on this soil is high. Slope is a limitation to forest management and logging operations. Locating woodland access roads on adjacent areas that are not as steep is a suitable management practice. Woodland access roads constructed on the contour, water bars spaced at appropriate intervals along the roadway, and properly installed culverts help control erosion. Equipment operations in early spring or during wet periods increase the erosion hazard and damage woodland access roads and skid trails.

Slope (fig. 13) and slow permeability are severe limitations to use of this soil for urban development.

Figure 12.—An area of Bernardston silt loam, 15 to 25 percent slopes, very stony. This sugarbush, or stand of sugar maples, is managed for maple syrup production.

This soil is in capability subclass VIIs.

334B—Pittstown silt loam, 3 to 8 percent slopes. This is a gently sloping, moderately well drained soil on broad crests and lower, concave side slopes of hills of glaciated uplands in the western part of the county. Many of the hills are smooth-sided and oval and have a northwest-southeast orientation. Areas of this soil are generally irregular in shape or oblong, and range from 4 to 30 acres in size.

Typically, the surface layer is very dark grayish brown silt loam about 9 inches thick. The subsoil is about 12 inches thick. It is dark yellowish brown silt loam in the upper part and mottled, light olive brown channery silt loam in the lower part. The substratum to a depth of 60 inches or more is very firm, mottled, dark grayish brown channery loam.

Included with this soil in mapping are small areas of Bernardston soils on rises or in upper slope positions and Stissing soils in low spots. Also included are a few areas of soils that have slopes of less than 3 percent. These soils make up as much as 10 percent of the map unit. Also included are some areas of soils that are similar to this Pittstown soil, except they have a friable substratum. These soils make up as much as 10 percent of the map unit.

Permeability of this Pittstown soil is moderate in the surface layer and subsoil and slow in the firm,

Figure 13.—An area of Bernardston silt loam, 25 to 50 percent slopes, very stony. Crownvetch and birdsfoot trefoil have been planted on this roadbank to stabilize the slope.

compacted substratum, or hardpan. The available water capacity is moderate. Depth to bedrock is more than 60 inches. The seasonal high water table is at a depth of 1.5 to 2 feet from November through April. The hardpan is at a depth of 15 to 30 inches and limits the rooting depth of plants. Potential frost action is moderate.

Most areas of this soil are used for hay. Some areas are used for cultivated crops (fig. 14) or pasture. Other areas that had been cleared of stones and farmed at one time have reverted to woodland. A few areas are used as homesites.

This soil is suited to cultivated crops, grasses, and legumes. The seasonal high water table delays cultivation and planting in spring and restricts the choice of crops to plant. Tile drainage improves the suitability of this soil for farming. Conservation tillage, contour farming, and grasses and legumes included in the cropping system help control erosion. In pasture management, deferred grazing, stocking rates within carrying capacity, and rotation grazing help improve pasture productivity. Restricted grazing during wet periods helps prevent damage caused by animal traffic to the surface layer.

Potential productivity of eastern white pine on this soil is very high. The seasonal high water table hinders logging operations in spring or after prolonged wet periods. Logging in spring or during wet periods increases the hazard of erosion and ruts woodland access roads.

The seasonal high water table, slow permeability in the hardpan, slope, and potential frost action limit use of this soil for urban development. Careful design and installation are needed for septic tank absorption fields. Larger absorption beds and raised absorption fields are common designs used on these soils. Curtain drains around foundations, sealed foundation walls, and interceptor drains upslope from the house foundation help prevent wet basements. On construction sites, establishing a plant cover helps control erosion. Using a coarser grained subgrade or base material helps prevent

Figure 14.—This area of Pittstown silt loam, 3 to 8 percent slopes, is used for corn silage.

the damage to local roads and streets caused by frost heave.

This soil is in capability subclass IIe.

334C—Pittstown silt loam, 8 to 15 percent slopes. This is a strongly sloping, moderately well drained soil on lower, concave side slopes of hills of glaciated uplands in the western part of the county. Many of the hills are smooth sided and oval and have a northwest-southeast orientation. Areas of this soil are generally irregular in shape or oblong, and range from 5 to 20 acres in size.

Typically, the surface layer is very dark grayish brown silt loam about 9 inches thick. The subsoil is about 12 inches thick. It is dark yellowish brown silt loam in the upper part and mottled, light olive brown channery silt loam in the lower part. The substratum to a depth of 60 inches or more is very firm, mottled, dark grayish brown channery loam.

Included with this soil in mapping are small areas of Bernardston soils on rises or in upper slope positions and Stissing soils in low spots. These soils make up as much as 10 percent of the map unit. Also included are some areas of soils that are similar to this Pittstown soil, except they have a friable substratum. These soils make up as much as 10 percent of the map unit.

Permeability of this Pittstown soil is moderate in the surface layer and subsoil and slow in the firm, compacted substratum, or hardpan. The available water capacity is moderate. Depth to bedrock is more than 60 inches. The seasonal high water table is at a depth of 1.5 to 2 feet from November through April. The hardpan

is at a depth of 15 to 30 inches and limits rooting depth of plants. Potential frost action is moderate.

Most areas of this soil are used for hay. Other areas that had been cleared of stones and farmed at one time have reverted to woodland. A few areas are used as homesites.

This soil is suited to grasses and legumes. It is poorly suited to cultivated crops because of the erosion hazard, slope, and the seasonal high water table. The water table delays cultivation and planting in spring and restricts the choice of crops to plant. Tile drainage improves the suitability of this soil for farming. Conservation tillage, contour farming, diversions, and grasses and legumes included in the cropping system help control erosion. In pasture management, deferred grazing, stocking rates within carrying capacity, and rotation grazing help improve pasture productivity. Restricted grazing during wet periods helps prevent damage caused by animal traffic to the surface layer.

Potential productivity of eastern white pine on this soil is very high. There are few limitations to forest management and logging operations. The seasonal high water table hinders logging operations in spring or after prolonged wet periods. Logging in spring or during wet periods increases the hazard of erosion and ruts woodland access roads. Constructing woodland access roads on the contour helps control erosion.

Slope, the seasonal high water table, slow permeability in the hardpan, and potential frost action limit use of this soil for urban development. Careful design and installation are needed for septic tank absorption fields. Larger absorption beds and raised absorption fields are common designs used on this soil. Curtain drains around foundations, sealed foundation walls, and interceptor drains upslope from the house foundation help prevent wet basements. On construction sites, quickly establishing a plant cover helps control erosion. Careful design of local roads and streets and using coarser grained subgrade or base material help prevent the damage caused by frost heave.

This soil is in capability subclass IIIe.

336B—Pittstown silt loam, 3 to 8 percent slopes, very stony. This is a gently sloping, moderately well drained soil along drainageways, on broad crests, and on lower, concave side slopes of hills of glaciated uplands in the western part of the county. Many of the hills are smooth sided and oval and have a northwest-southeast orientation. Areas of this soil are long and narrow or irregular in shape, and range from 4 to 25 acres in size. Stones, on average, 15 inches in diameter are 15 to 140 feet apart and cover 0.1 to 1 percent of the surface.

Typically, the surface layer is covered by a well decomposed organic mat 2 inches thick. The surface layer is very dark grayish brown silt loam about 4 inches thick. The subsoil is about 17 inches thick. It is dark yellowish brown silt loam in the upper part and mottled, light olive brown channery silt loam in the lower part. The substratum to a depth of 60 inches or more is very firm, mottled, dark grayish brown channery loam.

Included with this soil in mapping are small areas of Bernardston soils on rises or in upper slope positions and Stissing soils in low spots and along drainageways. These soils make up as much as 10 percent of the map unit. Also included are some areas of soils that are similar to this Pittstown soil, except they have a friable substratum. These similar soils make up as much as 10 percent of the map unit. Also included are a few areas of soils that have slopes of less than 3 percent.

Permeability of this Pittstown soil is moderate in the surface layer and subsoil and slow in the firm, compacted substratum, or hardpan. The available water capacity is moderate. Depth to bedrock is more than 60 inches. The seasonal high water table is at a depth of 1.5 to 2 feet from November through April. The hardpan is at a depth of 15 to 30 inches and limits rooting depth of plants. Potential frost action is moderate.

Most areas of this soil are wooded. A few areas are used for unimproved pasture or as homesites.

This soil is not suited to cultivated crops and hay and poorly suited to pasture, because of surface stones. Surface stones limit use of equipment. Removal of surface stones and trees will improve the suitability of this soil for farming.

Potential productivity of eastern white pine on this soil is very high. The seasonal high water table hinders logging operations in spring or after prolonged wet periods. Logging in spring or during wet periods increases the hazard of erosion and ruts woodland access roads.

The seasonal high water table, slow permeability in the hardpan, slope, stones on the surface, and high potential frost action limit use of this soil for urban development. Careful design and installation are needed for septic tank absorption fields. Larger absorption beds and raised absorption fields are common designs used on this soil. Curtain drains around foundations, sealed foundation walls, and interceptor drains upslope from the house foundation help prevent wet basements. On construction sites, establishing a plant cover helps control erosion. Careful design of local roads and streets and using a coarser grained subgrade or base material help prevent the damage caused by frost heave.

This soil is in capability subclass VIs.

336C—Pittstown silt loam, 8 to 15 percent slopes, very stony. This is a strongly sloping, moderately well drained soil on lower, concave side slopes of hills of glaciated uplands in the western part of the county. Many of the hills are smooth sided and oval and have a northwest-southeast orientation. Areas of this soil are generally irregular in shape and range from 5 to 30 acres in size. Stones, on average, 15 inches in diameter are 15

to 140 feet apart and cover 0.1 to 1 percent of the surface.

Typically, the surface layer is covered by a well decomposed organic mat about 2 inches thick. The surface layer is very dark grayish brown silt loam about 4 inches thick. The subsoil is about 17 inches thick. It is dark yellowish brown silt loam in the upper part and mottled, light olive brown channery silt loam in the lower part. The substratum to a depth of 60 inches or more is very firm, mottled, dark grayish brown channery loam.

Included with this soil in mapping are small areas of Bernardston soils on rises or in upper slope positions and Stissing soils in low spots and along drainageways. These soils make up as much as 10 percent of the map unit. Also included are some areas of soils that are similar to this Pittstown soil, except they have a friable substratum. These soils make up as much as 10 percent of the map unit.

Permeability of this Pittstown soil is moderate in the surface layer and subsoil and slow in the firm, compacted substratum, or hardpan. The available water capacity is moderate. Depth to bedrock is more than 60 inches. The seasonal high water table is at a depth of 1.5 to 2 feet from November through April. The hardpan is at a depth of 15 to 30 inches and limits the rooting depth of plants. Potential frost action is moderate.

Most areas of this soil are wooded. A few areas are used for unimproved pasture or as homesites.

This soil is not suited to cultivated crops and hay and poorly suited to pasture, because of surface stones. Removal of surface stones and trees will improve the suitability of this soil for farming.

Potential productivity of eastern white pine on this soil is very high. There are few limitations to forest management and logging operations. The seasonal high water table hinders logging operations in spring or during prolonged wet periods. Logging in spring or during wet periods increases the hazard of erosion and ruts woodland access roads. Constructing logging roads on the contour helps control erosion.

Slope, the seasonal high water table, slow permeability in the hardpan, stones on the surface, and potential frost action limit use of this soil for urban development. Careful design and installation are needed for septic tank absorption fields. Larger absorption beds and raised absorption fields are common designs used on this soil. Curtain drains around foundations, sealed foundation walls, and interceptor drains upslope from the house foundation help prevent wet basements. On construction sites, quickly establishing a plant cover helps control erosion. Carefully designing local roads and streets and using a coarser grained subgrade or base material help prevent the damage caused by frost heave.

This soil is in capability subclass VIs.

340B—Stissing silt loam, 0 to 5 percent slopes. This is a nearly level and gently sloping, poorly drained soil in depressions and along drainageways of glaciated uplands in the western part of the county. Areas of this soil are long and narrow along drainageways and oblong in depressions. They range from 3 to 20 acres in size.

Typically, the surface layer is very dark gray silt loam about 8 inches thick. The subsoil is mottled, gray loam about 12 inches thick. The substratum to a depth of 60 inches or more is firm, mottled, dark grayish brown, gravelly silt loam.

Included with this soil in mapping are small areas of Pittstown soils on rises. These soils make up as much as 5 percent of the map unit. Also included are some areas of soils that are similar to this Stissing soil, except they have a friable substratum. These soils make up as much as 15 percent of the map unit.

Permeability of this Stissing soil is moderate in the surface layer and subsoil and slow in the firm, compacted substratum, or hardpan. The available water capacity is moderate. Depth to bedrock is more than 60 inches. The seasonal high water table is between the surface and a depth of 2 feet from October through May. The hardpan is at a depth of 15 to 25 inches and limits the rooting depth of plants. Potential frost action is high.

Most areas of this soil are wooded. Other areas are used for pasture or hay.

This soil is poorly suited to cultivated crops, hay, and pasture because of the seasonal high water table. Tile drainage or open ditches improve the suitability of this soil for farming. The soil warms up and dries out slowly in spring; consequently, cultivation and planting are delayed and the choice of crops to plant is restricted. In some years the seasonal high water table also hinders harvesting in fall. Water-tolerant grasses are better suited to this soil. Restricted grazing during wet periods helps prevent damage caused by animal traffic to the surface layer.

Potential productivity of eastern white pine on this soil is high. The seasonal high water table limits use of equipment in forest management and logging operations. Seedling mortality is severe and windthrow is a severe hazard. Logging operations during wet periods rut woodland access roads and skid trails. Scheduling logging operations during the driest time of the year or in winter, when the ground is frozen, is a suitable management practice.

The seasonal high water table, slow permeability in the hardpan, and potential frost action severely limit use of this soil for urban development. Using coarser grained subgrade or base material helps prevent the damage to local roads and streets caused by frost heave. Potential of the soil is fair for use as habitat for wetland wildlife.

This soil is in capability subclass IIIw.

341B—Stissing silt loam, 0 to 5 percent slopes, very stony. This is a nearly level and gently sloping, poorly drained soil in depressions and along drainageways of glaciated uplands in the western part of

the county. Areas of this soil are long and narrow along drainageways and oblong in depressions and range from 3 to 25 acres in size. Stones, on average, 15 inches in diameter are 15 to 140 feet apart and cover 0.1 to 1 percent of the surface.

Typically, the surface layer is covered with a moderately well decomposed organic mat about 2 inches thick. The surface layer is very dark gray silt loam about 4 inches thick. The subsoil is mottled, gray loam about 16 inches thick. The substratum to a depth of 60 inches or more is firm, mottled, dark grayish brown gravelly silt loam.

Included with this soil in mapping are small areas of Pittstown soils on rises. These soils make up as much as 5 percent of the map unit. Also included are some areas that have soils that are similar to this Stissing soil, except they have a friable substratum. These soils make up as much as 15 percent of the map unit. Also included are a few small areas of soils that have slopes of more than 5 percent.

Permeability of this Stissing soil is moderate in the surface layer and subsoil and slow in the firm, compacted substratum, or hardpan. The available water capacity is moderate. Depth to bedrock is more than 60 inches. The seasonal high water table is between the surface and a depth of 2 feet from October through May. The hardpan is at a depth of 15 to 25 inches and limits the rooting depth of plants. Potential frost action is high.

Most areas of this soil are wooded. A few areas are used for unimproved pasture.

This soil is not suited to cultivated crops and hay and poorly suited to pasture, because of the seasonal high water table and surface stones. Removal of stones and trees and installation of tile drainage or open ditches will improve the suitability of this soil for some farming uses.

Potential productivity of eastern white pine on this soil is high. The seasonal high water table limits use of equipment in forest management and logging operations. Seedling mortality is severe and windthrow is a severe hazard. Logging operations during wet periods damage woodland access roads and skid trails. Scheduling logging operations during the driest time of the year or in winter, when the ground is frozen, is a suitable management practice.

The seasonal high water table, slow permeability in the hardpan, and potential frost action severely limit use of this soil for urban development. Using coarser grained subgrade or base material helps prevent the damage to local roads and streets caused by frost heave. Potential of this soil is fair for use as habitat for wetland wildlife.

This soil is in capability subclass VIIs.

347B—Lyme and Moosilauke soils, 0 to 5 percent slopes, very stony. This map unit consists of nearly level and gently sloping, poorly drained and somewhat poorly drained soils in depressions and along drainageways of glaciated uplands. Areas of these soils are long and narrow or irregular in shape and range from 3 to 40 acres in size. It is about 40 percent Lyme soils, 35 percent Moosilauke soils, and 25 percent other soils. Some areas are mostly Lyme soils, some areas are mostly Moosilauke soils, and some areas consist of both. Stones, on average, 20 inches in diameter are 10 to 50 feet apart and cover 0.5 to 3 percent of the surface. The soils were mapped together because they are similar in use and management.

Typically, the surface layer of the Lyme soils is covered by a black, well decomposed organic mat about 4 inches thick. The surface layer is very dark gray fine sandy loam about 2 inches thick. The subsoil is about 19 inches thick. It is light brownish gray and gray fine sandy loam in the upper part and olive sandy loam in the lower part. The substratum to a depth of 60 inches or more is light olive brown sandy loam.

Typically, the surface layer of the Moosilauke soils is covered by a black, well decomposed organic mat about 4 inches thick. The surface layer is very dark gray and dark gray fine sandy loam about 7 inches thick. The subsoil is about 13 inches thick. It is dark gray sandy loam in the upper part and dark gray gravelly sandy loam in the lower part. The substratum to a depth of 60 inches or more is dark brown very gravelly sand, pale brown gravelly loamy fine sand, and light olive brown very gravelly sand.

Included in this unit in mapping are small areas of Sunapee, Berkshire, and Monadnock soils on rises. These soils make up less than 5 percent of the map unit. Also included, randomly intermixed throughout the unit, are small areas of Pillsbury, Searsport, Naumburg, and Ossipee soils, which make up 20 percent of the map unit. Also included are areas of soils that are extremely stony or very bouldery.

Permeability in the Lyme soils is moderate or moderately rapid. The available water capacity is moderate. Depth to bedrock is more than 60 inches. The seasonal high water table is between the surface and a depth of 1.5 feet from November through May. Potential frost action is high.

Permeability in the Moosilauke soils is moderately rapid above the substratum and rapid or very rapid in the substratum. The available water capacity is moderate. Depth to bedrock is more than 60 inches. The seasonal high water table is between the surface and a depth of 1.5 feet from November through May. Potential frost action is high.

Most areas of the soils in this map unit are wooded. A few areas are used as unimproved pasture.

These soils are not suited to cultivated crops and hay and poorly suited to pasture because of stones on the surface and the seasonal high water table.

Potential productivity is high for red spruce on the Lyme soils and for eastern white pine on the Moosilauke soils. Seedling mortality is moderate for both soils. Windthrow is a severe hazard. The seasonal high water

limits use of equipment. Scheduling logging operations during the driest part of the year or in winter, when the ground is frozen, is a suitable management practice.

These soils are poorly suited to urban development. The main limitation is the seasonal high water table. Potential of the soils is fair as habitat for wetland wildlife.

These soils are in capability subclass VIIs.

360B—Cardigan-Kearsarge complex, 3 to 8 percent slopes. This map unit consists of gently sloping soils generally on crests of hills and ridges in the western part of the county. Generally, the Cardigan soil is in mid-slope positions on the landscape and the Kearsarge soil is on slightly higher rises. The map unit is about 40 percent well drained, moderately deep Cardigan soil, about 35 percent somewhat excessively drained, shallow Kearsarge soil, and about 25 percent other soils. The soils are in such an intricate pattern on the landscape that they could not be mapped separately at the scale selected for mapping. Areas of this map unit are somewhat oblong and range from 4 to 30 acres in size.

Typically, the surface layer of the Cardigan soil is dark brown silt loam about 7 inches thick. The subsoil is light olive brown very fine sandy loam about 15 inches thick. The substratum to a depth of 31 inches is olive brown channery very fine sandy loam. Phyllite bedrock is at a depth of 31 inches.

Typically, the surface layer of the Kearsarge soil is dark brown silt loam about 9 inches thick. The subsoil is yellowish brown silt loam about 8 inches thick. Phyllite bedrock is at a depth of 17 inches.

Included with this complex in mapping are areas of very deep Dutchess soils in lower slope positions. These soils make up as much as 15 percent of the map unit. Also included are small areas of Stissing and Pittstown soils in depressions. Also included are small areas of exposed bedrock and very shallow soils generally on high rises. These included areas make up as much as 10 percent of the map unit.

Permeability of the Cardigan soil is moderate. The available water capacity is moderate. Depth to bedrock is 20 to 40 inches. Potential frost action is moderate.

Permeability of the Kearsarge soil is moderate. The available water capacity is low. Depth to bedrock is 10 to 20 inches. Potential frost action is moderate.

Most areas of the soils in this complex are wooded. Some areas are used for pasture, hay, and cultivated crops. A few areas are used for residential development.

These soils are fairly suited to cultivated crops, hay, and pasture. On the Kearsarge soil, low moisture supplying capacity is the major limitation to these uses. In some areas of this complex occasional rock outcrops hinder equipment operations.

Potential productivity of eastern white pine is very high on these soils. On the Kearsarge soil, windthrow is a severe hazard because of depth to bedrock. There are few limitations to most types of forest management and logging operations.

Depth to bedrock is a limitation to use of these soils for most types of urban development, especially as sites for dwellings with basements and for septic tank absorption fields. Suitable sites for buildings and for septic tank absorption fields can be found on included areas of very deep Dutchess soils.

These soils are in capability subclass IIIe.

360C—Cardigan-Kearsarge complex, 8 to 15 percent slopes. This map unit consists of strongly sloping soils generally on crests of hills and ridges in the western part of the county. Generally, the Cardigan soil is in the mid-slope positions on the landscape and the Kearsarge soil is on slightly higher rises. The map unit is about 40 percent well drained, moderately deep Cardigan soil, about 35 percent somewhat excessively drained, shallow Kearsarge soil, and 25 percent other soils. Areas of these soils are in such an intricate pattern on the landscape that they could not be mapped separately at the scale selected for mapping. The areas are somewhat oblong and range from 4 to 30 acres in size.

Typically, the surface layer of the Cardigan soil is dark brown silt loam about 7 inches thick. The subsoil is light olive brown very fine sandy loam about 15 inches thick. The substratum to a depth of 31 inches is olive brown channery very fine sandy loam. Phyllite bedrock is at a depth of 31 inches.

Typically, the surface layer of the Kearsarge soil is dark brown silt loam about 9 inches thick. The subsoil is yellowish brown silt loam about 8 inches thick. Phyllite bedrock is at a depth of 17 inches.

Included with this complex in mapping are areas of very deep Dutchess soils in lower slope positions. These soils make up as much as 15 percent of the map unit. Also included are small areas of Stissing and Pittstown soils in depressions. Also included are small areas of exposed bedrock and very shallow soils generally on high rises. These included areas make up as much as 10 percent of the map unit.

Permeability of the Cardigan soil is moderate. The available water capacity is moderate. Depth to bedrock is 20 to 40 inches. Potential frost action is moderate.

Permeability of the Kearsarge soil is moderate. The available water capacity is low. Depth to bedrock is 10 to 20 inches. Potential frost action is moderate.

Most areas of the soils in this complex are wooded. Some areas are used for pasture, hay, and cultivated crops. A few areas are used for residential development.

These soils are poorly suited to cultivated crops and suited to hay and pasture. On the Kearsarge soil, the low moisture supplying capacity is a limitation to these uses. In some areas of this complex, occasional rock outcrops hinder equipment operations. Erosion is a hazard for cultivated crops. Conservation tillage, contour farming,

cover crops, and crop residue left on the surface help control erosion and maintain organic matter content and soil tilth.

Potential productivity of eastern white pine on these soils is very high. On the Kearsarge soil, windthrow is a severe hazard because of depth to bedrock.

Depth to bedrock is a limitation to use of these soils for most types of urban development, especially as sites for dwellings with basements and for septic tank absorption fields. Suitable sites for building and for septic tank absorption fields can be found on the included areas of very deep Dutchess soils. On construction sites, establishing a vegetative cover helps control erosion.

These soils are in capability subclass IVe.

360D—Cardigan-Kearsarge complex, 15 to 25 percent slopes. This map unit consists of moderately steep soils generally on side slopes of hills and ridges in the western part of the county. The complex is about 40 percent well drained, moderately deep Cardigan soil, about 35 percent somewhat excessively drained, shallow Kearsarge soil, and 25 percent other soils. Areas of these soils are in such an intricate pattern on the landscape that they could not be separated at the scale selected for mapping. The areas are irregular in shape or long and narrow and range from 7 to 300 acres in size. Generally, the Cardigan soil is in mid-slope positions on the landscape and the Kearsarge soil is on slightly higher rises.

Typically, the surface layer of the Cardigan soil is dark brown silt loam about 7 inches thick. The subsoil is light olive brown very fine sandy loam about 15 inches thick. The substratum to a depth of 31 inches is olive brown channery very fine sandy loam. Phyllite bedrock is at a depth of 31 inches.

Typically, the surface layer of the Kearsarge soil is dark brown silt loam about 9 inches thick. The subsoil is yellowish brown silt loam about 8 inches thick. Phyllite bedrock is at a depth of 17 inches.

Included with this complex in mapping are areas of very deep Dutchess soils in lower slope positions. These soils make up as much as 15 percent of the map unit. Also included are small areas of Stissing and Pittstown soils in depressions. Also included are small areas of exposed bedrock and very shallow soils generally on high rises. These included areas make up as much as 10 percent of the map unit.

Permeability of the Cardigan soil is moderate. The available water capacity is moderate. Depth to bedrock is 20 to 40 inches. Potential frost action is moderate.

Permeability of the Kearsarge soil is moderate. The available water capacity is low. Depth to bedrock is 10 to 20 inches. Potential frost action is moderate.

Most areas of the soils in this complex are wooded. Some areas are used for pasture. A few areas are used for residential development.

These soils are not suited to cultivated crops. They are poorly suited to hay and pasture. Slope, the erosion hazard, and, on the Kearsarge soil, shallowness to bedrock are limitations to these uses. On the Kearsarge soil, during dry periods, droughtiness can decrease crop yields. In some areas occasional rock outcrops hinder equipment operations. In pasture management, deferred grazing, stocking rates within carrying capacity, and rotation grazing help increase pasture productivity.

Potential productivity of eastern white pine on these soils is very high. Slope limits use of equipment. On the Kearsarge soil, windthrow is a severe hazard. Constructing woodland access roads on the contour, water bars spaced appropriately along the roadway, and properly sized and installed culverts help control erosion.

Slope and depth to bedrock are severe limitations to use of these soils for urban development. On construction sites, seeding disturbed areas helps control erosion.

These soils are in capability subclass VIe.

361C—Cardigan-Kearsarge-Rock outcrop complex, 8 to 15 percent slopes. This map unit consists of strongly sloping soils and areas of exposed bedrock generally on crests of hills and ridges in the western part of the county. Generally, the Cardigan soil is on lower slopes on the landscape, the Kearsarge soil is adjacent to the rock outcrops, and the areas of Rock outcrop are on rises. Areas of these soils are in such an intricate pattern on the landscape that they could not be mapped separately at the scale selected for mapping. The complex is about 40 percent well drained, moderately deep Cardigan soil, about 25 percent somewhat excessively drained, shallow Kearsarge soil, 15 percent exposed bedrock, and 20 percent other soils. The areas are oblong or irregular in shape and range from 5 to 80 acres in size. Stones, on average, 15 inches in diameter are 15 to 140 feet apart and cover 0.1 to 1 percent of the surface.

Typically, the surface layer of the Cardigan soil is dark brown silt loam about 4 inches thick. The subsoil is light olive brown very fine sandy loam about 18 inches thick. The substratum to a depth of 31 inches is olive brown channery very fine sandy loam. Phyllite bedrock is at a depth of 31 inches.

Typically, the surface layer of the Kearsarge soil is dark brown silt loam about 4 inches thick. The subsoil is yellowish brown silt loam about 13 inches thick. Phyllite bedrock is at a depth of 17 inches.

Rock outcrop consists of areas of exposed bedrock.

Included with this complex in mapping are areas of very deep Dutchess soils in lower slope positions. These soils make up as much as 10 percent of the map unit. Also included are small areas of Stissing and Pittstown soils in depressions. Also included are small areas of very shallow soils that are generally on rises adjacent to

the bedrock exposures. These soils make up as much as 10 percent of the map unit.

Permeability of the Cardigan soil is moderate. The available water capacity is moderate. Depth to bedrock is 20 to 40 inches. Potential frost action is moderate.

Permeability of the Kearsarge soil is moderate. The available water capacity is low. Depth to bedrock is 10 to 20 inches. Potential frost action is moderate.

Most areas of the soils in this complex are wooded. A few areas are used as homesites or for unimproved pasture.

These soils are not suited to cultivated crops and hay and poorly suited to pasture. Bedrock exposures and, on the Kearsarge soil, shallowness to bedrock are limitations for farming.

Potential productivity of eastern white pine on the Cardigan and Kearsarge soils is very high. Windthrow is a moderate hazard on the Cardigan soil and a severe hazard on the Kearsarge soil. Seedling mortality is moderate on both soils. Bedrock exposures restrict forest management and logging operations. Careful design and layout of logging roads are needed to avoid rock outcrops and control erosion.

Exposed bedrock, depth to bedrock, and slope limit use of these soils for urban development. Suitable sites for homes and for septic tank absorption fields can be found in included areas of Dutchess soils. Generally, the larger the building lot the more likely it will have a suitable building site.

The Cardigan and Kearsarge soils are in capability subclass VIs.

361D—Cardigan-Kearsarge-Rock outcrop complex, 15 to 25 percent slopes. This map unit consists of moderately steep soils and areas of exposed bedrock generally on side slopes of hills in the western part of the county. Generally, the Kearsarge soil is adjacent to the areas of Rock outcrop and the areas of Rock outcrop are on rises. The Cardigan soil is on lower slopes. Areas of these soils are in such an intricate pattern on the landscape that they could not be mapped separately at the scale selected for mapping. The complex is about 40 percent well drained, moderately deep Cardigan soil, about 25 percent somewhat excessively drained, shallow Kearsarge soil, 15 percent exposed bedrock, and 20 percent other soils. The areas are generally irregular in shape and range from 5 to 300 acres in size. Stones, on average, 15 inches in diameter are 15 to 140 feet apart and cover 0.1 to 1 percent of the surface.

Typically, the surface layer of the Cardigan soil is dark brown silt loam about 4 inches thick. The subsoil is light olive brown very fine sandy loam about 18 inches thick. The substratum to a depth of 31 inches is olive brown channery very fine sandy loam. Phyllite bedrock is at a depth of 31 inches.

Typically, the surface layer of the Kearsarge soil is dark brown silt loam about 4 inches thick. The subsoil is yellowish brown silt loam about 13 inches thick. Phyllite bedrock is at a depth of 17 inches.

Rock outcrop consists of areas of exposed bedrock.

Included with this complex in mapping are areas of very deep Dutchess soils in lower slope positions. These soils make up as much as 10 percent of the map unit. Included are small areas of Stissing and Pittstown soils in depressions and along drainageways. Also included are small areas of very shallow soils generally on rises adjacent to bedrock exposures. Also included are areas that have bedrock exposures that cover 15 to 50 percent of the surface and areas of soils that have slopes of more than 25 percent. These included areas make up as much as 10 percent of the map unit.

Permeability of the Cardigan soil is moderate. The available water capacity is moderate. Depth to bedrock is 20 to 40 inches. Potential frost action is moderate.

Permeability of the Kearsarge soil is moderate. The available water capacity is low. Depth to bedrock is 10 to 20 inches. Potential frost action is moderate.

Most areas of the soils in this complex are wooded (fig. 15). A few areas are used as homesites or for unimproved pasture.

These soils are not suited to cultivated crops and hay. It is poorly suited to pasture. Slope, bedrock exposures, and, on the Kearsarge soil, shallowness to bedrock are limitations to farming.

Potential productivity of eastern white pine is very high on the Cardigan and Kearsarge soils. Windthrow is a moderate hazard on the Cardigan soil and a severe hazard on the Kearsarge soil. Seedling mortality is moderate on both soils. Slope limits use of equipment. Exposed bedrock and slope restrict forest management and logging operations. Careful design and layout of logging roads are needed to avoid rock outcrops and control erosion.

Exposed bedrock, depth to bedrock, and slope severely limit use of these soils for urban development.

The Cardigan and Kearsarge soils are in capability subclass VIs.

362E—Kearsarge-Cardigan-Rock outcrop complex, 25 to 50 percent slopes. This map unit consists of steep and very steep soils and areas of exposed bedrock on side slopes and escarpments of hills, ridges, and mountains in the western part of the county. Generally, the areas of Rock outcrop are on rises and steep side slopes. The Kearsarge soil is adjacent to the areas of Rock outcrop, and the Cardigan soil is on lower slopes. The complex is about 45 percent somewhat excessively drained, shallow Kearsarge soil, about 25 percent well drained, moderately deep Cardigan soil, 15 percent exposed bedrock, and 15 percent other soils. Areas of these soils are in such an intricate pattern on the landscape that it was not practical to map them

Figure 15.—This area of Cardigan-Kearsarge-Rock outcrop complex, 15 to 25 percent slopes, is used as woodland.

separately. They are generally irregular in shape and range from 5 to 500 acres in size. Stones, on average, 15 inches in diameter are 15 to 140 feet apart and cover 0.1 to 1 percent of the surface.

Typically, the surface layer of the Kearsarge soil is dark brown silt loam about 4 inches thick. The subsoil is yellowish brown silt loam about 13 inches thick. Phyllite bedrock is at a depth of 17 inches.

Typically, the surface layer of the Cardigan soil is dark brown silt loam about 4 inches thick. The subsoil is light olive brown very fine sandy loam about 18 inches thick. The substratum to a depth of 31 inches is olive brown channery very fine sandy loam. Phyllite bedrock is at a depth of 31 inches.

Included with this complex in mapping are areas of very deep Dutchess soils in lower slope positions. These soils make up as much as 5 percent of the map unit. Included are small areas of moderately well drained and poorly drained loamy soils in depressions and along drainageways. Also included are small areas of very shallow soils generally on rises adjacent to bedrock exposures. Also included are areas where bedrock covers 20 to 50 percent of the surface.

Permeability of the Kearsarge soil is moderate. The available water capacity is low. Depth to bedrock is 10 to 20 inches. Potential frost action is moderate.

Permeability of the Cardigan soil is moderate. The available water capacity is moderate. Depth to bedrock is 20 to 40 inches. Potential frost action is moderate.

All areas of the soils in this complex are wooded. These soils are not suited to agricultural use or urban development. Slope, bedrock exposures, and, on the Kearsarge soil, shallowness to bedrock severely limit use of these soils for woodland. Laying out woodland access

roads in adjacent areas that are not as steep is a suitable management practice.

The Kearsarge and Cardigan soils are in capability subclass VIIs.

365C—Berkshire and Monadnock soils, 8 to 15 percent slopes, extremely stony. This map unit consists of strongly sloping well drained soils on plains, hilltops, and side slopes of glaciated uplands. Total acreage of the unit is about 55 percent Berkshire soils, 30 percent Monadnock soils, and 15 percent other soils. Some areas are mostly Berkshire soils, some areas are mostly Monadnock soils, and some areas consist of both. Areas of these soils are generally irregular in shape and range from 10 to 250 acres in size. Stones, on average, 20 inches in diameter are 2 to 10 feet apart and cover 3 to 15 percent of the surface. The soils were mapped together because they are similar in use and management.

Typically, the surface layer of Berkshire soils is very dark grayish brown fine sandy loam about 3 inches thick. The subsoil is about 32 inches thick. It is, proceeding downward, yellowish red fine sandy loam, dark brown fine sandy loam, yellowish brown fine sandy loam, and light olive brown gravelly fine sandy loam. The substratum, to a depth of 60 inches or more, is grayish brown gravelly sandy loam.

Typically, the surface layer of the Monadnock soils is brown fine sandy loam about 3 inches thick. The subsurface layer is light brownish gray sandy loam about 2 inches thick. The subsoil is about 18 inches thick. It is reddish brown fine sandy loam in the upper part and yellowish brown fine sandy loam in the lower part. The substratum, to a depth of 60 inches or more, is olive gravelly loamy sand.

Included with these soils in mapping are small areas of Marlow, Becket, Tunbridge, Skerry, Sunapee, Peru, Moosilauke, and Lyme soils. Marlow and Becket soils are on smoother side slopes, and Tunbridge soils are on the tops of rises. Skerry, Sunapee, Peru, Moosilauke, and Lyme soils are in low spots or along drainageways. Also included are soils that are similar to the Monadnock soils, except that rock fragments make up more than 35 percent of the volume above the substratum. Also included are a few small areas of soils that have slopes of less than 15 percent. Also included, in most areas of this unit, are boulders, mixed with stones, that cover a small percentage of the surface.

Permeability of the Berkshire soil is moderate or moderately rapid. The available water capacity is high. Depth to bedrock is generally more than 60 inches. The seasonal high water table is at a depth of more than 6 feet. Potential frost action is moderate.

Permeability of the Monadnock soil is moderate above the substratum and moderately rapid in the substratum. The available water capacity is moderate. Depth to bedrock is generally more than 60 inches. The seasonal high water table is at a depth of more than 6 feet. Potential frost action is low.

Most areas of these soils are wooded. A few areas are used as homesites or summer camps.

These soils are not suited to cultivated crops and hay and poorly suited for pasture because of stones on the surface.

Potential productivity of eastern white pine is high on the Berkshire and Monadnock soils. Many stones and scattered boulders limit use of equipment in forest management and logging operations. Constructing woodland access roads is difficult because of stones on the surface. Construction costs are high for the removal of stones and boulders.

Surface stones, boulders, and slope limit use of these soils for urban development. Removal of stones and boulders from sites for homes and for septic tank absorption fields increases construction costs. On construction sites, establishing a vegetative cover helps control erosion.

These soils are in capability subclass VIIs.

365D—Berkshire and Monadnock soils, 15 to 25 percent slopes, extremely stony. This map unit consists of moderately steep, well drained soils on side slopes of the glaciated uplands. Total acreage of the unit is about 55 percent Berkshire soils, 30 percent Monadnock soils, and 15 percent other soils. Some areas are mostly Berkshire soils, some areas are mostly Monadnock soils, and some areas consist of both. Areas of these soils are generally irregular in shape and range from 8 to 120 acres in size. Stones, on average, 20 inches in diameter are 2 to 10 feet apart and cover 3 to 15 percent of the surface. The soils were mapped together because they are similar in use and management.

Typically, the surface layer of the Berkshire soils is very dark grayish brown fine sandy loam about 3 inches thick. The subsoil is about 32 inches thick. It is, proceeding downward, yellowish red fine sandy loam, dark brown fine sandy loam, yellowish brown fine sandy loam, and light olive brown gravelly fine sandy loam. The substratum to a depth of 60 inches or more is grayish brown gravelly sandy loam.

Typically, the surface layer of the Monadnock soils is brown fine sandy loam about 3 inches thick. The subsurface layer is light brownish gray sandy loam about 2 inches thick. The subsoil is about 18 inches thick. It is reddish brown fine sandy loam in the upper part and yellowish brown fine sandy loam in the lower part. The substratum to a depth of 60 inches or more is olive gravelly loamy sand.

Included with these soils in mapping are small areas of Marlow, Becket, Tunbridge, Skerry, Sunapee, Peru, Moosilauke, and Lyme soils. Marlow and Becket soils are on smoother side slopes, and Tunbridge soils are on the tops of rises. Skerry, Sunapee, Peru, Moosilauke,

and Lyme soils are in low spots or along drainageways. Also included are soils that are similar to Monadnock soils, except that rock fragments make up more than 35 percent of the volume above the substratum. Also included are a few small areas of soils that have slopes of more than 25 percent. Also included, in most areas of this unit, are boulders, mixed with stones, that cover a small percentage of the surface.

Permeability of the Berkshire soils is moderate or moderately rapid. The available water capacity is high. Depth to bedrock is generally more than 60 inches. The seasonal high water table is at a depth of more than 6 feet. Potential frost action is moderate.

Permeability of the Monadnock soils is moderate above the substratum and moderately rapid in the substratum. The available water capacity is moderate. Depth to bedrock is generally more than 60 inches. The seasonal high water table is at a depth of more than 6 feet. Potential frost action is low.

Almost all areas of these soils are wooded. A few areas are used as homesites and summer camps.

These soils are not suited to cultivated crops and hay and poorly suited to pasture, because of stones on the surface and slope.

Potential productivity of eastern white pine is high for the Berkshire and Monadnock soils. Stones, scattered boulders, and slope limit use of equipment in forest management and logging operations. Constructing woodland access roads is difficult because of stones on the surface and slope. Construction costs are high for the removal of stones and boulders. Woodland access roads constructed on the contour, water bars spaced appropriately along the roadway, and properly sized and installed culverts help control erosion.

Surface stones, boulders, and slope limit use of these soils for urban development. Removal of stones and boulders from sites for homes and for septic tank absorption fields increases construction costs. On construction sites, establishing a vegetative cover helps control erosion.

These soils are in capability subclass VIIs.

365E—Berkshire and Monadnock soils, 25 to 50 percent slopes, extremely stony. This map unit consists of steep and very steep, well drained soils on side slopes of hills and mountains of glaciated uplands. The areas are generally irregular in shape, or long and narrow, and range from 7 to 200 acres in size. Stones, on average, 20 inches in diameter are 2 to 10 feet apart and cover 3 to 15 percent of the surface. Total acreage of the unit is about 55 percent Berkshire soils, 30 percent Monadnock soils, and 15 percent other soils. Some areas are mostly Berkshire soils, some areas are mostly Monadnock soils, and some areas consist of both. The soils were mapped together because they are similar in use and management.

Typically, the surface layer of the Berkshire soils is very dark grayish brown fine sandy loam about 3 inches thick. The subsoil is about 32 inches thick. It is, proceeding downward, yellowish red fine sandy loam, dark brown fine sandy loam, yellowish brown fine sandy loam, and light olive brown gravelly fine sandy loam. The substratum to a depth of 60 inches or more is grayish brown gravelly sandy loam.

Typically, the surface layer of the Monadnock soils is a brown fine sandy loam about 3 inches thick. The subsurface layer is light brownish gray sandy loam about 2 inches thick. The subsoil is about 18 inches thick. It is reddish brown fine sandy loam in the upper part and yellowish brown fine sandy loam in the lower part. The substratum to a depth of 60 inches or more is olive gravelly loamy sand.

Included with these soils in mapping are small areas of Marlow, Becket, Tunbridge, Skerry, Sunapee, Peru, Moosilauke, and Lyme soils. Marlow and Becket soils are on smoother side slopes, and Tunbridge soils are on the tops of rises. Skerry, Sunapee, Peru, Moosilauke, and Lyme soils are in low spots or along drainageways. Also included are soils that are similar to Monadnock soils, except that rock fragments make up more than 35 percent of the volume above the substratum. Also included are areas of soils that are stony or very stony on the surface.

Permeability of the Berkshire soil is moderate or moderately rapid. The available water capacity is high. Depth to bedrock is generally more than 60 inches. The seasonal high water table is at a depth of more than 6 feet. Potential frost action is moderate.

Permeability of the Monadnock soils is moderate above the substratum and moderately rapid in the substratum. The available water capacity is moderate. Depth to bedrock is generally more than 60 inches. The seasonal high water table is at a depth of more than 6 feet. Potential frost action is low.

Almost all areas of these soils are wooded. A few areas are used as summer camps or are in recreation use.

These soils are not suited to farming or urban development because slope and stones on the surface.

Potential productivity of eastern white pine is high on the Berkshire and Monadnock soils. Slope and stones limit the use of equipment in forest management and logging operations. Constructing woodland access roads in adjacent areas that are not as steep is a suitable management practice.

These soils are in capability subclass VIIs.

366B—Dutchess silt loam, 3 to 8 percent slopes. This is a gently sloping, well drained soil on hilltops of glaciated uplands in the western part of the county. Areas of this soil are oblong or irregular shape, and range from 3 to 30 acres in size.

Typically, the surface layer is dark brown silt loam about 8 inches thick. The subsoil is about 13 inches thick. It is dark yellowish brown channery silt loam in the upper part and olive brown channery silt loam in the lower part. The substratum to a depth of 60 inches or more is olive channery very fine sandy loam.

Included with this soil in mapping are small areas of Pittstown soils in lower slope positions and in depressions. Also included are small areas of Cardigan soils generally on the tops of rises or knolls and Bernardston soils in smoother, convex, slope positions. These soils make up as much as 15 percent of the map unit.

Permeability of this Dutchess soil is moderate. The available water capacity is high. Depth to bedrock is generally more than 60 inches. The seasonal high water table is at a depth of more than 6 feet. Potential frost action is moderate.

Most areas of this soil are used for hay, cultivated crops, and pasture. Some areas are used as homesites. Other areas that had been cleared of stones and farmed at one time have been planted to pine or have naturally reverted to woodland.

This soil is suited to cultivated crops, grasses, and legumes. Under a high level of management including timely applications of lime and fertilizer, high yields can be obtained. In pasture management, deferred grazing, stocking rates within grazing capacity, and rotation grazing help increase pasture productivity. Conservation tillage, contour farming, stripcropping, diversions, and grasses and legumes included in the cropping system help control erosion. Cover crops, applications of manure, and crop residues returned to the soil help maintain soil tilth and organic matter content and conserve moisture.

Potential productivity of eastern white pine on this soil is very high. There are few limitations to forest management and logging operations.

This soil is suited to most types of urban development. On construction sites, establishing a plant cover helps to control erosion.

This soil is in capability subclass IIe.

366C—Dutchess silt loam, 8 to 15 percent slopes. This is a strongly sloping, well drained soil on hilltops and side slopes of glaciated uplands in the western part of the county. Areas of this soil are generally irregular in shape or oblong, and range from 3 to 40 acres in size.

Typically, the surface layer is dark brown silt loam about 8 inches thick. The subsoil is about 13 inches thick. It is dark yellowish brown channery silt loam in the upper part and olive brown channery silt loam in the lower part. The substratum to a depth of 60 inches or more is olive channery very fine sandy loam.

Included with this soil in mapping are small areas of Pittstown soils in lower slope positions and in depressions. Also included are small areas of Cardigan soils generally on the tops of rises or knolls and Bernardston soils in smoother, convex, slope positions. These soils make up as much as 15 percent of the map unit.

Permeability of this Dutchess soil is moderate. The available water capacity is high. Depth to bedrock is generally more than 60 inches. The seasonal high water table is at a depth of more than 6 feet. Potential frost action is moderate.

Most areas of this soil are used for hay, cultivated crops, and pasture. Some areas are used as homesites. Other areas that had been cleared of stones and farmed at one time have been planted to pine plantations or have naturally reverted to woodland.

This soil is suited to grasses and legumes. It is poorly suited to cultivated crops because of slope and the erosion hazard. Conservation tillage, contour farming, stripcropping, diversions, and grasses and legumes included in the cropping system help control erosion. Cover crops, applications of manure, and crop residue returned to the soil help maintain soil tilth and organic matter content and conserve moisture. In pasture management, deferred grazing, stocking rates within carrying capacity, and rotation grazing help increase pasture productivity.

Potential productivity of eastern white pine on this soil is very high. There are few limitations to forest management and logging operations. Constructing woodland access roads on the contour helps control erosion.

This soil is suited to most types of urban development, but slope is a limitation. On construction sites, establishing a plant cover helps control erosion.

This soil is in capability subclass IIIe.

366D—Dutchess silt loam, 15 to 25 percent slopes. This is a moderately steep, well drained soil on side slopes of glaciated uplands in the western part of the county. Areas of this soil are irregular in shape or long and narrow, and range from 3 to 30 acres in size.

Typically, the surface layer is dark brown silt loam about 8 inches thick. The subsoil is about 13 inches thick. It is dark yellowish brown channery silt loam in the upper part and olive brown channery silt loam in the lower part. The substratum to a depth of 60 inches or more is olive channery very fine sandy loam.

Included with this soil in mapping are small areas of Pittstown soils in lower slope positions and in depressions. Also included are small areas of Cardigan soils generally on the tops of rises or knolls and Bernardston soils in smoother, convex slope positions. These soils make up as much as 15 percent of the map unit.

Permeability of the Dutchess soil is moderate. The available water capacity is high. Depth to bedrock is generally more than 60 inches. The seasonal high water

table is at a depth of more than 6 feet. Potential frost action is moderate.

Most areas of this soil are used for hay or pasture. Some areas that had been cleared of stones and farmed at one time have been planted to pine plantations or have reverted naturally to woodland. A few areas are used for cultivated crops or as homesites.

This soil is poorly suited to grasses and legumes and not suited to cultivated crops. Slope limits use of equipment. Erosion is a severe hazard if cultivated crops are grown. In pasture management, deferred grazing, stocking rates within carrying capacity, and rotation grazing help increase pasture productivity.

Potential productivity of eastern white pine on this soil is very high. Slope is a moderate limitation to forest management and logging operations. Constructing woodland access roads on the contour, installing culverts properly, and spacing water bars and diversions at appropriate distances along the roadway help control erosion.

Slope is a severe limitation to most types of urban development. On construction sites, establishing a plant cover helps control erosion.

This soil is in capability subclass IVe.

367C—Dutchess silt loam, 8 to 15 percent slopes, very stony. This is a strongly sloping, well drained soil on hilltops and side slopes of glaciated uplands in the western part of the county. Areas of this soil are generally irregular in shape or are oblong and range from 4 to 30 acres in size. Stones, on average, 15 inches in diameter are 15 to 140 feet apart and cover 0.1 to 1 percent of the surface.

Typically, the surface layer is dark brown silt loam about 3 inches thick. The subsoil is about 18 inches thick. It is dark yellowish brown channery silt loam in the upper part and olive brown channery silt loam in the lower part. The substratum to a depth of 60 inches or more is olive channery very fine sandy loam.

Included with this soil in mapping are small areas of Pittstown soils in lower slope positions and in depressions. Also included are small areas of Cardigan soils generally on the tops of rises or knolls and Bernardston soils in smoother, convex, slope positions. These soils make up as much as 15 percent of the map unit. Also included are a few areas of soils that have slopes of less than 8 percent.

Permeability of this Dutchess soil is moderate. The available water capacity is high. Depth to bedrock is generally more than 60 inches. The seasonal high water table is at a depth of more than 6 feet. Potential frost action is moderate.

Most areas of this soil are wooded. A few areas are used as homesites or for unimproved pasture.

This soil not suited to cultivated crops or hay and poorly suited to pasture, because of surface stones. Removal of the surface stones and trees will improve the suitability of this soil for farming.

Potential productivity of eastern white pine on this soil is very high. There are few limitations to forest management and logging operations. Constructing woodland access roads on the contour helps control erosion.

Slope and stones on the surface are limitations to use of this soil for most types of urban development. On construction sites, establishing a plant cover helps control erosion.

This soil is in capability subclass VIs.

367D—Dutchess silt loam, 15 to 25 percent slopes, very stony. This is a moderately steep, well drained soil on side slopes of glaciated uplands in the western part of the county. Areas of this soil are irregular in shape or long and narrow, and range from 4 to 70 acres in size. Stones, on average, 15 inches in diameter are 15 to 140 feet apart and cover 0.1 to 1 percent of the surface.

Typically, the surface layer is dark brown silt loam about 3 inches thick. The subsoil is about 18 inches thick. It is dark yellowish brown channery silt loam in the upper part and olive brown channery silt loam in the lower part. The substratum to a depth of 60 inches or more is olive channery very fine sandy loam.

Included with this soil in mapping are small areas of Pittstown soils in lower slope positions, along drainageways, and in depressions. Also included are small areas of Cardigan soils generally on the tops of rises or knolls and Bernardston soils in smoother, convex slope positions. These soils make up as much as 15 percent of the map unit.

Permeability of this Dutchess soil is moderate. The available water capacity is high. Depth to bedrock is generally more than 60 inches. The seasonal high water table is at a depth of more than 6 feet. Potential frost action is moderate.

Most areas of this soil are wooded. A few areas are used as homesites or unimproved pasture.

This soil is not suited for cultivated crops and hay and poorly suited to pasture, because of surface stones and slope. Removal of surface stones and trees will improve the suitability of this soil for pasture.

Potential productivity of eastern white pine on this soil is very high. Slope limits use of equipment in forest management and logging operations. Woodland access roads constructed on the contour, water bars spaced at appropriate distances along the roadway, and culverts properly sized and installed help control erosion.

Slope is a limitation to use of this soil for urban development. On construction sites, quickly establishing a plant cover helps control erosion.

This soil is in capability subclass VIs.

367E—Dutchess silt loam, 25 to 50 percent slopes, very stony. This is a steep or very steep, well drained

soil on side slopes of glaciated uplands in the western part of the county. Areas of this soil are irregular in shape or long and narrow, and range from 5 to 150 acres in size. Stones, on average, 15 inches in diameter are 15 to 140 feet apart and cover 0.1 to 1 percent of the surface.

Typically, the surface layer is dark brown silt loam about 3 inches thick. The subsoil is about 18 inches thick. It is dark yellowish brown channery silt loam in the upper part and olive brown channery silt loam in the lower part. The substratum to a depth of 60 inches or more is olive channery very fine sandy loam.

Included with this soil in mapping are small areas of Pittstown and Stissing soils in lower slope positions, along drainageways, and in depressions. Also included are small areas of Cardigan soils generally on the tops of rises or knolls and Bernardston soils in smoother, convex slope positions. These soils make up as much as 15 percent of the map unit.

Permeability of this Dutchess soil is moderate. The available water capacity is high. Depth to bedrock is generally more than 60 inches. The seasonal high water table is at a depth of more than 6 feet. Potential frost action is moderate.

Most areas of this soil are wooded. A few areas are used as homesites or for unimproved pasture.

This soil is not suited to cultivated crops, hay, and pasture, because of surface stones and slope. It is not suited for urban development.

Potential productivity of eastern white pine on this soil is very high. Slope is a limitation to forest management and logging operations. Laying out woodland access roads in adjacent areas that are not as steep is a suitable management practice. Woodland access roads constructed on the contour, water bars spaced at appropriate intervals along the roadway, and culverts properly sized and installed help control erosion.

This soil is in capability subclass VIIs.

395—Chocorua mucky peat. This is a nearly level, very poorly drained soil in depressions on outwash plains, terraces, and uplands. Areas of this soil are irregular in shape or long and narrow, and range from 3 to 80 acres in size. Slopes range from 0 to 2 percent but are dominantly less than 1 percent.

Typically, the uppermost 34 inches of the soil is dark reddish brown moderately decomposed organic material. The layer below that, to a depth of 60 inches or more, is gray loamy sand.

Included with this soil in mapping are small areas of Greenwood, Ossipee, Saco, and Searsport soils. Also included are areas of soils that are similar to this Chocorua soil, except that the organic material is well decomposed. These soils make up as much as 15 percent of the map unit.

Permeability of this Chocorua soil is moderate or moderately rapid in the organic layers and rapid or very rapid in the mineral substratum. The available water capacity is high. Depth to bedrock is more than 60 inches. The seasonal high water table is between 1 foot above the surface and 0.5 foot below the surface from January through December. Potential frost action is high.

Most areas of this soil are wooded. Some areas are in open marshes.

This soil is not suitable for most uses other than as habitat for wetland wildlife because of the seasonal high water table or ponded water and poor stability of the organic material.

This soil is in capability subclass VIIIw.

399—Rock outcrop. This map unit consists of areas of exposed bedrock generally on the tops of mountains or on steep cliffs on mountainsides in glaciated uplands. Areas are irregular in shape and range from 3 to 1,000 acres in size. The most extensive area is on the higher slopes and peak of Mount Monadnock. Slopes range from 3 to 80 percent.

Included in mapping are small areas of Lyman soils and small areas of soils that are less than 10 inches deep over bedrock.

Most areas of Rock outcrop support little or no vegetation and are mainly in recreation use. This unit is not suited to any uses except recreation uses, such as mountain climbing.

This soil is in capability subclass VIIIs.

401—Occum fine sandy loam. This is a nearly level, well drained soil on flood plains. Areas of this soil are long and narrow or rectangular, and range from 3 to 100 acres in size. Slopes range from 0 to 3 percent but are dominantly less than 2 percent.

Typically, the surface layer is dark brown fine sandy loam about 8 inches thick. The subsoil is about 21 inches thick. It is light olive brown fine sandy loam in the upper part and olive yellow sandy loam in the lower part. The substratum to a depth of 60 inches or more is variegated, olive yellow and light yellowish brown loamy sand in the upper part and variegated, light yellowish brown and pale yellow sand in the lower part.

Included with this soil in mapping are small areas of Pootatuck and Rippowam soils in low spots. Also included are small areas of Suncook soils on slight rises nearer the stream channel than Pootatuck and Rippowan soils. Also included are small areas that have gravelly sand or very gravelly sand textures at a depth of 12 to 20 inches. These soils make up as much as 15 percent of the map unit. Also included are soils that are similar to this Occum soil except that they are fine sandy loam to a depth of 60 inches. These similar soils make up as much as 20 percent of the map unit.

Permeability of this Occum soil is moderate or moderately rapid above the substratum and rapid or very rapid in the substratum. The available water capacity is moderate. Depth to bedrock is more than 60 inches. The

seasonal high water table is at a depth of 4 to 6 feet from November through April. Potential frost action is moderate. Generally, from February through April, most areas of this soil are subject to occasional flooding and some areas are subject to rare flooding.

Most areas of this soil are used for cultivated crops. Some areas are used for hay or pasture, or are wooded. A few areas are used for residential and commercial development, and a few areas are in recreation use.

This soil is well suited to corn, grasses, legumes, and vegetable crops. It can be cropped continuously. Under a high level management including timely applications of lime and fertilizer, high yields can be obtained. The soil warms up and dries out early in spring and can be cultivated and planted early in the growing season. Cover crops help control erosion when the soil is flooded. Leaving a strip of sod adjacent to the stream helps control streambank erosion.

Potential productivity of eastern white pine on this soil is very high. There are few or no limitations to forest management or logging operations.

Flooding is the main limitation to use of this soil for urban development. Careful design of local roads and streets helps prevent the damage caused by frost heave. Building up roads and streets above normal flood levels helps prevent the damage caused by flooding.

The capability class is I.

410A—Haven very fine sandy loam, 0 to 3 percent slopes. This is a nearly level, well drained soil on outwash plains and terraces along the Connecticut River and its tributaries. Areas of this soil are oval or rectangular, and range from 5 to 40 acres in size.

Typically, the surface layer is dark brown very fine sandy loam about 4 inches thick. The subsoil is about 18 inches thick. It is, proceeding downward, dark brown very fine sandy loam, dark yellowish brown very fine sandy loam, yellowish brown very fine sandy loam, and olive brown gravelly fine sandy loam. The substratum to a depth of 60 inches or more is variegated, dark grayish brown and olive brown extremely gravelly sand.

Included with this soil in mapping are small areas of Hoosic soils on rises and Ninigret soils in slight depressions. These soils make up as much as 10 percent of the map unit. Also included are small areas of Agawam soils, which are similar to the Haven soil. These soils make up as much as 5 percent of the map unit.

Permeability of this Haven soil is moderate above the substratum and very rapid in the substratum. The available water capacity is moderate. Depth to bedrock is more than 60 inches. The seasonal high water is at a depth of more than 6 feet. Potential frost action is moderate.

Most areas of this soil are used for cultivated crops or hay. A few areas are wooded or used as homesites.

This soil is well suited to corn, grasses, legumes, and vegetable crops. It can be cropped continuously. It warms up and dries out early in spring and can be cultivated and planted early in the growing season. Cover crops and crop residue returned to the soil help maintain organic matter content and soil tilth.

Potential productivity of eastern white pine on this soil is very high. There are few or no limitations to forest management or logging operations.

This soil is suited to urban development. If the soil is used as sites for septic tank absorption fields, ground water pollution is a hazard. The soil readily absorbs but does not adequately filter the effluent because of very rapid permeability. Careful design and installation of septic tank absorption fields are needed to prevent ground water pollution. This soil is a probable source of sand and gravel for use in construction.

This soil is in capability subclass I.

410B—Haven very fine sandy loam, 3 to 8 percent slopes. This is a gently sloping, well drained soil on outwash plains and terraces along the Connecticut River and its tributaries. Areas of this soil are oval or irregular in shape, and range from 5 to 30 acres in size.

Typically, the surface layer is dark brown very fine sandy loam about 4 inches thick. The subsoil is about 18 inches thick. It is, proceeding downward, dark brown very fine sandy loam, dark yellowish brown very fine sandy loam, yellowish brown very fine sandy loam, and olive brown gravelly fine sandy loam. The substratum to a depth of 60 inches or more is variegated, dark grayish brown and olive brown extremely gravelly sand.

Included with this soil in mapping are small areas of Hoosic soils on rises and Ninigret soils in slight depressions. These soils make up as much as 10 percent of the map unit. Also included are small areas of Agawam soils, which are similar to this Haven soil. These soils make up as much as 5 percent of the map unit.

Permeability of this Haven soil is moderate above the substratum and very rapid in the substratum. The available water capacity is moderate. The seasonal high water is at a depth of more than 6 feet. Depth to bedrock is more than 60 inches. Potential frost action is moderate.

Most areas of this soil are used for cultivated crops or hay. A few areas are wooded or used as homesites.

This soil is suited to corn, grasses, legumes, and vegetable crops. It warms up and dries out early in spring and can be cultivated and planted early in the growing season. Conservation tillage and cover crops help control erosion. Cover crops and crop residue returned to the soil help maintain organic matter content and soil tilth.

Potential productivity of eastern white pine on this soil is very high. There are few or no limitations to forest management or logging operations.

This soil is suited to urban development. If it is used as sites for septic tank absorption fields, ground water

pollution is a hazard. The soil readily absorbs but does not adequately filter the effluent because of very rapid permeability. Careful design and installation of septic tank absorption fields are needed to prevent ground water pollution. On construction sites, seeding disturbed areas to a proper vegetative cover helps control erosion. The soil is a probable source of sand and gravel for use in construction.

This soil is in capability subclass IIe.

410C—Haven very fine sandy loam, 8 to 15 percent slopes. This is a strongly sloping, well drained soil on outwash plains and terraces along the Connecticut River and its tributaries. Areas of this soil are oval or irregular in shape, and range from 4 to 20 acres in size.

Typically, the surface layer is dark brown very fine sandy loam about 4 inches thick. The subsoil is about 18 inches thick. It is, proceeding downward, dark brown very fine sandy loam, dark yellowish brown very fine sandy loam, yellowish brown very fine sandy loam, and olive brown gravelly fine sandy loam. The substratum extends to a depth of 60 inches or more. It is variegated, dark grayish brown and olive brown extremely gravelly sand in the lower part.

Included with this soil in mapping are small areas of Hoosic soils on rises and Ninigret soils in low spots. These soils make up as much as 15 percent of the map unit. Also included are small areas of Agawam soils, which are similar to the Haven soil. Agawam soils make up as much as 10 percent of the map unit.

Permeability of this Haven soil is moderate above the substratum and very rapid in the substratum. The available water capacity is moderate. The seasonal high water is at a depth of more than 6 feet. Depth to bedrock is more than 60 inches. Potential frost action is moderate.

Many areas of this soil are woodland or are used for hay. Some areas are used as homesites or as a source of sand and gravel. A few areas are used for cultivated crops or pasture.

This soil is suited to grasses and legumes. It is poorly suited to cultivated crops because of the erosion hazard. Conservation tillage, contour farming, diversions, stripcropping, grasses and legumes included in the cropping system, and cover crops help control erosion. Cover crops and crop residue returned to the soil also help maintain organic matter content and soil tilth and conserve moisture.

Potential productivity of eastern white pine on this soil is very high. There are few limitations to forest management or logging operations. Constructing woodland access roads on the contour helps control erosion.

Slope is a limitation to use of this soil for urban development. Land grading is generally needed to make a site suitable for development. If the soil is used as sites for septic tank absorption fields, ground water pollution is a hazard. The soil readily absorbs but does not adequately filter the effluent because of very rapid permeability. Careful design and installation of septic tank absorption fields are needed to prevent ground water pollution. On construction sites, seeding disturbed areas to a proper vegetative cover helps control erosion. The soil is a probable source of sand and gravel for use in construction.

This soil is in capability subclass IIIe.

414—Moosilauke fine sandy loam. This is a nearly level, poorly drained and somewhat poorly drained soil in depressions and along drainageways on glacial outwash plains and stream terraces. Areas of this soil are generally irregular in shape or long and narrow, and range from 3 to 30 acres in size. Slopes range from 0 to 3 percent.

Typically, the surface layer is very dark gray and dark gray fine sandy loam about 7 inches thick. The subsoil is about 13 inches thick. It is dark gray sandy loam in the upper part and dark gray gravelly sandy loam in the lower part. The substratum extends to a depth of 60 inches or more. It is, proceeding downward, dark brown very gravelly sand, pale brown gravelly loamy fine sand, and light olive brown very gravelly sand.

Included with this soil in mapping are small areas of Sheepscot and Croghan soils on rises and Searsport soils in the lowest part of depressions. These soils make up as much as 10 percent of the map unit. Also included are Naumburg soils, which are similar to this Moosilauke soil, and soils that are like this Moosilauke soil but that have a gravelly loamy sand texture in the surface layer, subsoil, or both. These similar soils make up as much as 15 percent of the map unit. Also included are a few areas of soils that have slopes of more than 3 percent or that have stones, boulders, or both on the surface.

Permeability of this Moosilauke soil is moderately rapid or very rapid in the substratum. The available water capacity is moderate. Depth to bedrock is more than 60 inches. The seasonal high water table is between the surface and a depth of 1.5 feet from November through May. Potential frost action is high.

Most areas of this soil are wooded. A few areas are used for pasture and hay. A few areas are used as homesites.

This soil is poorly suited to cultivated crops, hay, and pasture because of the seasonal high water table. Tile drainage or open ditches improve the suitability of this soil for some agricultural uses. The seasonal water table restricts the choice of crops and limits use of equipment. The soil dries out and warms up slowly in spring; consequently, early cultivation and planting are delayed. In some years wetness also restricts harvesting in summer and fall. In pasture management, deferred grazing, stocking rates within carrying capacity, and rotation grazing help improve pasture productivity.

Restricted grazing during wet periods helps prevent damage caused by animal traffic to the surface layer.

Potential productivity of eastern white pine on this soil is high. Windthrow is a severe hazard, and seedling mortality is moderate. The seasonal high water table limits use of equipment. Logging in winter when the ground is frozen or during the driest period in summer helps prevent rutting on logging roads and skid trails.

The seasonal high water table severely limits use of this soil for urban development. Potential of the soil is good as habitat for wetland wildlife.

This soil is in capability subclass IVw.

495—Ossipee mucky peat. This is a nearly level, very poorly drained soil in depressions and drainageways of uplands, outwash plains, terraces, and lake plains. Areas of this soil are long and narrow or irregular in shape and generally range from 3 to 30 acres in size. The most extensive area is more than 400 acres in size. Slopes range from 0 to 2 percent but are dominantly less than 1 percent.

Typically, the uppermost 34 inches of this soil is dark reddish brown moderately decomposed organic material. The layer below that, to a depth of 60 inches or more, is gray very fine sandy loam.

Included with this soil in mapping are small areas of Greenwood, Chocorua, and Saco soils. Also included are areas of soils that are similar to this Ossipee soil, but consist of well decomposed organic material. These soils make up as much as 15 percent of the map unit.

Permeability of this Ossipee soil is moderate or moderately rapid in the organic layers and moderately slow to moderate in the mineral substratum. The available water capacity is high. Depth to bedrock is more than 60 inches. The seasonal high water table is between 1 foot above the surface and 0.5 foot below the surface from January through December. Potential frost action is high.

Most areas of this soil are wooded. A few areas are in open marshes.

Potential productivity of black spruce on this soil is moderate.

This soil is not suitable to most uses other than as habitat for wetland wildlife because of the seasonal high water table, or ponded water, and poor stability of the organic material.

This soil is in capability subclass VIIIw.

510B—Hoosic gravelly fine sandy loam, 3 to 8 percent slopes. This is a gently sloping, somewhat excessively drained soil on terraces and outwash plains along the Connecticut River and its tributaries. Areas of this soil are generally oblong or irregular in shape, and range from 4 to 100 acres in size.

Typically, the surface layer is dark brown gravelly fine sandy loam about 5 inches thick. The subsoil is about 13 inches thick. It is dark yellowish brown gravelly fine sandy loam in the upper part and olive brown very gravelly fine sandy loam in the lower part. The substratum to a depth of 60 inches or more is variegated, light olive brown and brown very gravelly sand.

Included with this soil in mapping are small areas of Haven, Ninigret, and Agawam soils. Ninigret soils are in low spots, and Agawam and Haven soils are generally in smoother, lower slope positions. Also included are small areas of soils that have short, steep slopes. These soils make up as much as 10 percent of the map unit. Also included are areas of soils that are similar to this Hoosic soil, but that have sandy textures in the surface layer and in the upper part of the subsoil. These similar soils make up as much as 10 percent of the map unit. Also included are a few areas of soils that have slopes of less than 3 percent.

Permeability of this Hoosic soil is moderately rapid or rapid in the surface layer and subsoil and very rapid in the substratum. The available water capacity is low. Depth to bedrock is more than 60 inches. The seasonal high water table is at a depth of more than 6 feet. Potential frost action is low.

This soil is in a variety of uses. Some areas are woodland or are used for hay or pasture. Some areas are used for cultivated crops, as homesites, and as sites for cemeteries. Other areas are used as sources of sand and gravel.

This soil is fairly suited to cultivated crops, grasses, and legumes. In dry years, the low moisture holding capacity, or droughtiness, of this soil reduces crop yields. Irrigation is needed to increase crop yields. Use of deep-rooted, drought-tolerant grasses and legumes for hay and pasture is a suitable management practice. Cover crops and crop residue returned to the soil help maintain soil tilth and organic matter content and help conserve moisture. The soil dries out and warms up early in spring and can be cultivated and planted early in the growing season. Conservation tillage, contour farming, and grasses and legumes included in the cropping system help control erosion.

Potential productivity of eastern white pine on this soil is very high. There are few or no limitations to forest management or logging operations.

There are few limitations to use of this soil for urban development. If the soil is used as sites for septic tank absorption fields, ground water pollution is a hazard. The soil readily absorbs but does not adequately filter the effluent because of very rapid permeability. Careful design and installation of septic tank absorption fields are needed to prevent ground water pollution.

This soil is a probable source of sand and gravel for use in construction.

This soil is in capability subclass IIIs.

510C—Hoosic gravelly fine sandy loam, 8 to 15 percent slopes. This is a strongly sloping, somewhat

excessively drained soil on terraces and outwash plains along the Connecticut River and its tributaries. Areas of this soil are generally oblong or irregular in shape, and range from 4 to 30 acres in size.

Typically, the surface layer is dark brown gravelly fine sandy loam about 5 inches thick. The subsoil is about 13 inches thick. It is dark yellowish brown gravelly fine sandy loam in the upper part and olive brown very gravelly fine sandy loam in the lower part. The substratum to a depth of 60 inches or more is variegated, light olive brown and brown very gravelly sand.

Included with this soil in mapping are small areas of Agawam, Haven, and Ninigret soils. Agawam and Haven soils are generally in smoother, lower slope positions, and Ninigret soils are in low spots. These soils make up as much as 10 percent of the map unit. Also included are areas of soils that are similar to this Hoosic soil but that have sandy textures in the surface layer and upper part of the subsoil. These similar soils make up as much as 10 percent of the map unit.

Permeability is moderately rapid or rapid in the surface layer and subsoil and very rapid in the substratum. The available water capacity is low. Depth to bedrock is more than 60 inches. The seasonal high water table is at a depth of more than 6 feet. Potential frost action is low.

This soil is in varied uses. Some areas are wooded, and some are used for hay or pasture. Some areas are used as homesites and as sites for cemeteries. Other areas are used as sources of sand and gravel.

This soil is fairly suited to grasses and legumes. The main limitation is low available water capacity. It is poorly suited to cultivated crops. Low available water capacity, slope, and the erosion hazard limit use of the soil for cultivated crops. Use of deep-rooted, drought-tolerant grasses and legumes for hay and pasture is a suitable management practice. Cover crops and crop residue returned to the soil help maintain soil tilth and organic matter content and help conserve moisture. The soil dries out and warms up early in spring and can be cultivated and planted early in the growing season. Contour farming, conservation tillage, and grasses and legumes included in the cropping system help control erosion.

Potential productivity of eastern white pine on this soil is very high. There are few limitations to forest management or logging operations. Constructing woodland access roads on the contour helps control erosion.

Slope is a limitation to use of this soil for urban development. Land grading is generally needed for building sites. If the soil is used as sites for septic tank absorption fields ground water pollution is a hazard. The soil readily absorbs but does not adequately filter the effluent because of very rapid permeability. Careful design and installation of septic tank absorption fields are needed to prevent ground water pollution. On construction sites, establishing a vegetative cover helps control erosion.

This soil a probable source of sand and gravel for use in construction.

This soil is in capability subclass IIIe.

510E—Hoosic gravelly fine sandy loam, 15 to 50 percent slopes. This is a moderately steep to very steep, somewhat excessively drained soil on terrace escarpments and kames along the Connecticut River and its tributaries. Areas of this soil are generally long and narrow, and are 5 to 30 acres in size.

Typically, the surface layer of this soil is dark brown gravelly fine sandy loam about 5 inches thick. The subsoil is about 13 inches thick. It is dark yellowish brown gravelly fine sandy loam in the upper part and olive brown very gravelly fine sandy loam in the lower part. The substratum to a depth of 60 inches or more is variegated, light olive brown and brown very gravelly sand.

Included with this soil in mapping are small areas of Windsor and Poocham soils. These soils make up as much as 10 percent of the map unit.

Permeability of this Hoosic soil is moderately rapid or rapid in the surface layer and subsoil and very rapid in the substratum. The available water capacity is low. Depth to bedrock is more than 60 inches. The seasonal high water table is at a depth of more than 6 feet. Potential frost action is moderate.

Most areas of this soil are woodland. A few areas are used as a source of sand and gravel.

This soil is not suited to cultivated crops, hay, and pasture, because of slope. Erosion is a severe hazard if the vegetative cover is disturbed or removed.

Potential productivity of eastern white pine on this soil is very high. Slope is a limitation to woodland management and logging operations. Laying out woodland access roads in adjacent areas that are not as steep is a suitable management practice.

Slope severely limits the use of this soil for urban development. The soil is a source of sand and gravel for use in construction.

This soil is in capability subclass VIe.

513A—Ninigret fine sandy loam, 0 to 3 percent slopes. This is a nearly level, moderately well drained soil in slightly concave depressional areas of outwash plains and stream terraces. Areas of this soil are oval or irregular in shape and range from 3 to 20 acres in size.

Typically, the surface layer is dark brown very fine sandy loam about 10 inches thick. The subsoil is about 23 inches thick. It is brownish yellow and light olive brown very fine sandy loam in the upper part and yellowish brown fine sandy loam and olive gray very fine sandy loam in the lower part. It is mottled in the lower part. The substratum extends to a depth of 60 inches or more. It is, proceeding downward, yellowish brown

gravelly sand, variegated, light yellowish brown and brownish yellow gravelly sand, and variegated, light brownish gray and grayish brown sand.

Included with this soil in mapping are small areas of well drained Agawam soil on high spots and poorly drained Moosilauke soils in the lowest part of depressions. Also included, randomly mixed throughout the map unit, are areas of Scio soils. The included soils make up as much as 20 percent of the map unit.

Permeability of this Ninigret soil is moderately rapid above the substratum and rapid or very rapid in the substratum. The available water capacity is high. Depth to bedrock is more than 60 inches. The seasonal high water table is at a depth of 1.5 to 3 feet from November through April. Potential frost action is moderate.

Most areas of this soil are used for cultivated crops or hay. A few areas are woodland or used for residential development.

This soil is suited to corn, grasses, legumes, and vegetable crops. In some areas the seasonal high water table is a limitation. Tile drainage will improve the suitability of this soil for farming. This soil dries out and warms up slowly in spring; consequently, early cultivation is hindered and planting is delayed. Cover crops and crop residue returned to the soil help maintain soil tilth and organic matter content.

Potential productivity of eastern white pine on this soil is high. In some years the seasonal high water table hinders logging operations in spring or after prolonged wet periods.

This soil is suited to urban development, but the seasonal high water table and frost heave are limitations. Special design and installation are needed for septic tank absorption fields. A raised absorption bed is a common design used on this soil. If suitable outlets are available, subsurface drains help prevent wet basements. Building dwellings without basements or with shallow basements above the seasonal high water table also helps prevent the damage caused by wetness. The soil is a probable source of sand and gravel for use in construction.

This soil is in capability subclass IIw.

513B—Ninigret fine sandy loam, 3 to 8 percent slopes. This is a gently sloping, moderately well drained soil in slightly concave, depressional areas of outwash plains and stream terraces. Areas of this soil are irregular in shape or oval and range from 3 to 20 acres in size.

Typically, the surface layer is dark brown very fine sandy loam about 10 inches thick. The subsoil is about 23 inches thick. It is brownish yellow and light olive brown very fine sandy loam in the upper part and mottled, yellowish brown fine sandy loam and olive gray very fine sandy loam in the lower part. The substratum extends to a depth of 60 inches or more. It is, proceeding downward, yellowish brown gravelly sand, variegated, light yellowish brown and brownish yellow gravelly sand, and variegated, brownish gray and grayish brown sand.

Included with this soil in mapping are small areas of well drained Hoosic, Haven, and Agawam soils on high spots and poorly drained Moosilauke soils in the lowest part of depressions. Also included, randomly intermixed throughout the map unit, are areas of Scio soils. These soils make up as much as 15 percent of the map unit. Also included are soils that are similar to this Ninigret soil but that have 10 to 20 percent, by volume, rock fragments in the B horizon and 30 to 45 percent rock fragments in the C horizon.

Permeability of this Ninigret soil is moderately rapid above the substratum and rapid or very rapid in the substratum. The available water capacity is high. Depth to bedrock is more than 60 inches. The seasonal high water table is at a depth of 1.5 to 3 feet from November through April. Potential frost action is moderate.

Most areas of this soil are used for cultivated crops or hay. Other areas are woodland or used as homesites.

This soil is suited to corn, grasses, legumes, and vegetable crops. It dries out and warms up slowly in spring; consequently, early planting and machinery operations are delayed. In some areas the seasonal high water table is a limitation. Tile drainage will improve the suitability of this soil for cultivated crops. Cover crops, conservation tillage, and contour farming help control erosion. Cover crops and crop residue returned to the soil help maintain soil tilth and organic matter content.

Potential productivity of eastern white pine on this soil is high. In some years the seasonal high water table hinders logging operations in spring or during prolonged wet periods.

This soil is suited to urban development, but the seasonal high water table and frost heave are limitations. Special design and installation are needed for septic tank absorption fields. A raised absorption field is a common design used on this soil. If suitable outlets are available, subsurface drains help prevent wet basements. Building dwellings without basements or with shallow basements above the seasonal high water table also help prevent the damage caused by wetness. In areas disturbed by construction, seeding to a vegetative cover helps control erosion. The soil is a probable source of sand and gravel for use in construction.

This soil is in capability subclass IIe.

526A—Caesar loamy sand, 0 to 3 percent slopes. This is a nearly level, excessively drained soil on glacial outwash plains and stream terraces. Areas of this soil are generally broad and irregular in shape and range from 5 to 600 acres in size.

Typically, the surface layer is very dark grayish brown loamy sand about 5 inches thick. The subsoil is about 13 inches thick. It is strong brown loamy sand in the upper part and yellowish brown sand in the lower part. The

substratum to a depth of 60 inches or more is variegated, pale olive and light brownish gray coarse sand.

Included with this soil in mapping are small areas of Croghan soils in low spots. These soils make up less than 5 percent of the map unit. Also included are small areas of Windsor soils and soils that are similar to this Caesar soil but that are 25 to 40 percent, by volume, gravel in the substratum. These soils make up as much as 5 percent of the map unit.

Permeability of this Caesar soil is very rapid. The available water capacity is very low. Depth to bedrock is more than 60 inches. The seasonal high water table is at a depth of more than 6 feet. Potential frost action is low.

Many areas of this soil are used for residential, commercial, and industrial development. Some areas are used as cemeteries and as a source of sand. Other areas are woodland or are used for pasture or hay. A few areas are used for cultivated crops. A few areas are in recreation use, such as ballparks and campgrounds.

This soil is poorly suited to cultivated crops, hay, and pasture. The main limitations are droughtiness and low natural fertility. Irrigation and applications of lime and fertilizer are needed to improve crop yields. Cover crops and crop residue returned to the soil help maintain soil tilth and organic matter content and help conserve moisture. The soil warms up and dries out early in spring, and can be cultivated and planted early in the growing season.

Potential productivity of eastern white pine on this soil is moderately high. Droughtiness causes moderate seedling mortality. There are few or no limitations to forest management (fig. 16) or logging operations.

This soil is suited to most types of urban development, including small commercial development. If it is used as sites for septic tank absorption fields, ground water pollution is a hazard. The soil readily absorbs but does not adequately filter the effluent because of very rapid permeability. Careful design and installation of septic tank absorption fields are needed to prevent ground water pollution. Watering lawn grasses and shrubs is

Figure 16.—An area of Caesar loamy sand, 0 to 3 percent slopes. This stand of red pine recently has been thinned.

needed during dry periods in summer. The soil is a probable source of sand for use in construction.

This soil is in capability subclass IVs.

526B—Caesar loamy sand, 3 to 8 percent slopes. This is a gently sloping, excessively drained soil on glacial outwash plains and stream terraces. Areas of this soil are generally irregular in shape or oblong, and range from 5 to 120 acres in size.

Typically, the surface layer is very dark grayish brown loamy sand about 5 inches thick. The subsoil is about 13 inches thick. It is strong brown loamy sand in the upper part and yellowish brown sand in the lower part. The substratum to a depth of 60 inches or more is variegated, pale olive and light brownish gray coarse sand.

Included with this soil in mapping are small areas of Croghan soils in low spots. These soils make up less than 5 percent of the map unit. Also included are small areas of Windsor soils that are similar to this Caesar soil but that are 25 to 40 percent, by volume, gravel in the substratum. These soils make up as much as 5 percent of the map unit. Also included are small areas of soils on short slopes of more than 8 percent.

Permeability of this Caesar soil is very rapid. The available water capacity is very low. Depth to bedrock is more than 60 inches. The seasonal high water table is at a depth of more than 6 feet. Potential frost action is low.

Many areas of this soil are used for residential, commercial, and industrial development. Some areas are used as cemeteries and as a source of sand. Other areas are woodland or are used for pasture or hay. A few areas are used for cultivated crops. A few areas are in recreation uses, such as ballparks and campgrounds.

This soil is poorly suited to cultivated crops, hay, and pasture. The main limitations are droughtiness and low natural fertility. Irrigation and applications of lime and fertilizer are needed to improve crop yields. Cover crops and crop residue returned to the soil help maintain soil tilth and organic matter content and help conserve moisture. The soil warms up and dries out early in spring, and can be cultivated and planted early in the growing season.

Potential productivity of eastern white pine on this soil is moderately high. Seedling mortality is moderate because of droughtiness.

This soil is suited to urban development. Slope is a moderate limitation on sites for small commercial buildings. On building sites, land grading and shaping are needed. If the soil is used as sites for septic tank absorption fields, ground water pollution is a hazard. The soil readily absorbs but does not adequately filter the effluent because of very rapid permeability. Careful design and installation of septic tank absorption fields are needed to prevent ground water pollution. Watering lawn grasses and shrubs is needed during dry periods in summer. The soil is a probable source of sand for use in construction.

This soil is in capability subclass IVs.

526C—Caesar loamy sand, 8 to 15 percent slopes. This is a strongly sloping, excessively drained soil on glacial outwash plains, kames, and stream terraces. Areas of this soil are generally irregular in shape or long and narrow, and range from 5 to 30 acres in size.

Typically, the surface layer is very dark grayish brown loamy sand about 5 inches thick. The subsoil is about 13 inches thick. It is strong brown loamy sand in the upper part and yellowish brown sand in the lower part. The substratum to a depth of 60 inches or more is variegated, pale olive and light brownish gray coarse sand.

Included with this soil in mapping are small areas of Croghan soils in low spots. These soils make up less than 5 percent of the map unit. Also included are small areas of Windsor soils that are similar to this Caesar soil but that are 25 to 40 percent, by volume, gravel in the substratum. These soils make up as much as 5 percent of the map unit. Also included are small areas of soils on short slopes of more than 15 percent.

Permeability of this Caesar soil is very rapid. The available water capacity is very low. Depth to bedrock is more than 60 inches. The seasonal high water table is at a depth of more than 6 feet. Potential frost action is low.

Most areas of this soil are wooded. Some areas are used as homesites and as a source of sand. A few areas are used for pasture or hay.

This soil is poorly suited to cultivated crops, hay, and pasture. The main limitations are droughtiness and low natural fertility. Irrigation and applications of lime and fertilizer are needed to improve crop yields. Cover crops and crop residue returned to the soil help maintain soil tilth and organic matter content and help conserve moisture. The soil warms up and dries out early in spring, and can be cultivated and planted early in the growing season.

Potential productivity of eastern white pine on this soil is moderately high. Seedling mortality is high because of droughtiness. Constructing woodland access roads on the contour help control erosion.

This soil is suited to urban development, but slope is a limitation. Land grading and shaping are needed in developing building sites. If the soil is used as sites for septic tank absorption fields, ground water pollution is a hazard. The soil readily absorbs but does not adequately filter the effluent because of very rapid permeability. Careful design and installation of septic tank absorption fields are needed to prevent ground water pollution. Watering lawn grasses and shrubs is needed during dry periods in summer. On construction sites, quickly establishing a vegetative cover helps control erosion. The soil is a probable source of sand for use in construction.

This soil is in capability subclass IVs.

526E—Caesar loamy sand, 15 to 50 percent slopes. This is a moderately steep to very steep, excessively drained soil on glacial outwash plains, kames, and terrace escarpments. Areas of this soil are generally irregular in shape or long and narrow, and range from 5 to 300 acres in size.

Typically, the surface layer is very dark grayish brown loamy sand about 5 inches thick. The subsoil is about 13 inches thick. It is strong brown loamy sand in the upper part and yellowish brown sand in the lower part. The substratum to a depth of 60 inches or more is variegated, pale olive and light brownish gray coarse sand.

Included with this soil in mapping are small areas of Naumburg and Croghan soils in low spots and along drainageways. These soils make up less than 5 percent of the map unit. Also included are small areas of Windsor soils and soils that are similar to this Caesar soil but that are 25 to 40 percent gravel, by volume, in the substratum. These soils make up as much as 5 percent of the map unit. Also included in some map units are small areas of soils that have slope of less than 15 percent.

Permeability of this Caesar soil is very rapid. The available water capacity is very low. Depth to bedrock is more than 60 inches. The seasonal high water table is at a depth of more than 6 feet. Potential frost action is low.

Most areas of this soil are woodland. Some areas are used as a source of sand. A few areas are used for pasture or as homesites.

This soil is not suited to cultivated crops, hay, and pasture. The limitations of this soil for these uses are droughtiness, slope, and low natural fertility.

Potential productivity of eastern white pine on this soil is moderately high. Seedling mortality is moderate because of droughtiness. Slope is a limitation to forest management and logging operations. Woodland access roads constructed on the contour, water bars spaced at appropriate intervals in the roadway, and culverts properly sized and installed help control erosion. Laying out woodland access roads in adjacent areas that are not as steep is a suitable management practice.

This soil is poorly suited to urban development because of slope. On construction sites, quickly establishing a vegetative cover helps control erosion. The soil is a probable source for sand for use in construction.

This soil is in capability subclass VIs.

531A—Scio very fine sandy loam, 0 to 3 percent slopes. This is a nearly level, moderately well drained soil on stream terraces and lower levels of glacial lake plains. Areas of this soil are generally somewhat oblong and range from 3 to 20 acres in size.

Typically, the surface layer is dark grayish brown very fine sandy loam about 10 inches thick. The subsoil is about 25 inches thick. It is light olive brown very fine sandy loam that is mottled in the lower part. The substratum to a depth of 60 inches or more is mottled, olive very fine sandy loam.

Included with this soil in mapping are small areas of Raynham soils in low spots and Unadilla soils on rises. Also included, randomly mixed throughout the map unit, are small areas of Ninigret soils. These soils make up as much as 15 percent of the map unit. Also included are some areas of soils that are similar to this Scio soil but that are silty clay loam in the substratum or fine sandy loam in the surface layer. These soils make up as much as to 10 percent of the map unit.

Permeability of this Scio soil is moderate. The available water capacity is high. Depth to bedrock is more than 60 inches. The seasonal high water table is at a depth of 1.5 to 2 feet from March through May. Potential frost action is high.

Most areas of this soil are used for corn or hay. A few areas are used for pasture or as homesites or are woodland.

This soil is suited to corn, grasses, legumes, and vegetable crops. It can be cropped continuously. In some years the seasonal high water table delays cultivation and planting in spring and restricts the choice of crops to plant. In some areas tile drainage is needed to remove excess water. Cover crops and crop residue returned to the soil help main maintain soil tilth and organic matter content. Maintaining sod filter strips along terrace escarpment borders helps prevent gully erosion.

Potential productivity of eastern white pine on this soil is very high. In some years the seasonal high water table hinders logging operations in spring. Use of equipment during wet periods can rut woodland access roads. Delaying logging operations during wet periods helps protect woodland access roads.

The seasonal high water table and potential frost action are limitations to use of this soil for urban development. Special design and installation are needed for septic tank absorption fields. A raised absorption field is a common design used on this soil. Curtain drains around foundations and sealed foundation walls help prevent wet basements. Raising the level of the basement above the seasonal high water table, backfilling around the outside foundation wall with a coarser grained material, and grading the slope away from the house also help prevent wet basements. Using coarse grained subgrade or base material helps prevent the damage to local roads and streets caused by frost heave. Slopes or banks of excavated areas are unstable.

This soil is in capability subclass IIw.

531B—Scio very fine sandy loam, 3 to 8 percent slopes. This is a gently sloping, moderately well drained soil on stream terraces and lower levels of glacial lake

plains. Areas of this soil are irregular in shape or oblong, and range from 3 to 15 acres in size.

Typically, the surface layer is dark grayish brown very fine sandy loam about 10 inches thick. The subsoil is about 25 inches thick. It is light olive brown very fine sandy loam that is mottled in the lower part. The substratum to a depth of 60 inches or more is mottled, olive very fine sandy loam.

Included with this soil in mapping are small areas of Raynham soils in low spots and Unadilla soils on rises. Also included, randomly intermixed throughout the map unit, are small areas of Ninigret soils. These soils make up as much as 15 percent of the map unit. Also included are some areas of soils that are similar to this Scio soil but that are silty clay loam in the substratum or fine sandy loam in the surface layer. These soils make up as much as 10 percent of the map unit.

Permeability of this Scio soil is moderate. The available water capacity is high. Depth to bedrock is more than 60 inches. The seasonal high water table is at a depth of 1.5 to 2 feet from March through May. Potential frost action is high.

Most areas of this soil are used for corn or hay. A few areas are used for pasture or as homesites or are woodland.

This soil is suited to corn, grasses, legumes, and vegetable crops. In some years the seasonal high water table delays cultivation and planting in spring and restricts the choice of crops to plant. In some areas tile drainage is needed to remove excess water. Cover crops and crop residue returned to the soil help maintain soil tilth and organic matter content. Conservation tillage, contour farming, and grasses and legumes included in the cropping system help control erosion. Maintaining sod filter strips along terrace escarpment borders helps prevent gully erosion.

Potential productivity of eastern white pine on this soil is very high. In some years the seasonal high water table hinders logging operations in spring. Use of equipment during wet periods can rut woodland access roads. Delaying logging operations during wet periods help protect woodland access roads.

The seasonal high water table, slope, and potential frost action are limitations to use of this soil for urban development. A raised septic system absorption field is a common design used on this soil. Curtain drains around foundations and sealed foundation walls help prevent wet basements. Raising the level of the basement above the seasonal high water table, backfilling around the outside foundation wall with a coarser grained material, and grading the slope away from the house also help prevent wet basements. Using coarse grained subgrade or base material helps prevent the damage to local roads and streets caused by frost heave. Slopes or banks of excavated areas are unstable. On construction sites, establishing a vegetative cover helps control erosion.

This soil is in capability subclass IIe.

533—Raynham silt loam. This is a nearly level, poorly drained soil in depressions and along drainageways on stream terraces and within glacial lake plains. Areas of this soil are generally irregular in shape or oblong, and range from 4 to 20 acres in size. Slopes range from 0 to 3 percent.

Typically, the surface layer is very dark grayish brown silt loam about 11 inches thick. The subsoil is about 14 inches thick. It is mottled, dark grayish brown silt loam in the upper part and mottled, light brown silt loam in the lower part. The substratum to a depth of 60 inches or more is mottled, dark grayish brown very fine sandy loam.

Included with this soil in mapping are small areas of Scio soils on rises. These soils make up as much as 5 percent of the map unit. Also included are some areas of soils that are similar to this Raynham soil but that are sandy or gravelly in the substratum. Also included are a few areas that have a mucky silt loam or mucky fine sandy loam surface layer and a few areas that have a silty clay loam substratum. These soils make up as much as 25 percent of the map unit. Also included are a few areas of soils that have slopes of 3 to 8 percent.

Permeability of this Raynham soil is moderate in the surface layer and subsoil and slow in the substratum. The available water capacity is high. Depth to bedrock is more than 60 inches. The seasonal high water table is between a depth of 0.5 to 2 feet from November through May. Potential frost action is high.

Most areas of this soil are wooded. Some areas are used for hay or pasture.

This soil is poorly suited to cultivated crops, hay, and pasture. The main limitation is the seasonal high water table. Tile drainage or open ditches will improve the suitability of this soil for farming. The soil dries out and warms up slowly in the spring; consequently, cultivating and planting are delayed. In some years the choice of crops to plant are restricted. Wetness hinders harvest operations. Animal traffic on this soil during wet periods ruts pastures. Restricted grazing in spring and after prolonged wet periods helps prevent damage to the surface layer.

Potential productivity of eastern white pine on this soil is high. The seasonal high water table is a limitation to use of equipment. Seedling mortality is moderate, and windthrow is a severe hazard. Logging in winter when the ground is frozen or during the driest period in summer helps prevent damage to woodland access roads and skid trails.

The seasonal high water table, slow permeability, and potential frost action severely limit use of this soil for urban development. Potential is fair for use of this soil as habitat for wetland wildlife.

This soil is in capability subclass IVw.

558B—Skerry fine sandy loam, 3 to 8 percent slopes. This is a gently sloping, moderately well drained soil on crests of broad, rounded hills or on lower foot slopes of glaciated uplands in the southern part of the county. Areas of this soil are generally oblong and range from 4 to 20 acres in size.

Typically, the surface layer is dark brown fine sandy loam about 8 inches thick. The subsoil is about 11 inches thick. It is dark brown and dark yellowish brown fine sandy loam in the upper part and mottled, yellowish brown fine sandy loam in the lower part. The substratum to a depth of 60 inches or more is mottled, olive yellow gravelly loamy sand in the upper part and mottled, pale olive gravelly loamy sand in the lower part. The substratum, or hardpan, is firm.

Included with this soil in mapping are small areas of Pillsbury soils in low spots and small areas of Becket and Marlow soils on rises. Also included, scattered throughout the map unit, are areas of Peru and Sunapee soils. These soils make up as much as 20 percent of the map unit. Also included are a few areas of soils that have slopes of more than 8 percent.

Permeability of this Skerry soil is moderate in the surface layer and subsoil and slow or moderately slow in the firm, compacted substratum, or hardpan. The available water capacity is moderate. Depth to bedrock is more than 60 inches. The seasonal high water table is at a depth of 1.5 to 2.5 feet from November through May. The hardpan is at a depth of 15 to 35 inches and limits the rooting depth of plants. Potential frost action is high.

Some areas of this soil are used for hay or pasture. Other areas that had been cleared of trees and stones and farmed at one time have been planted to pine or have naturally reverted to woodland. A few areas are used for cultivated crops or as homesites.

This soil is suited to cultivated crops, grasses, and legumes. The seasonal high water table is a limitation of this soil for cultivated crops. In some years the seasonal high water table delays cultivation and planting in spring and restricts the choice of crops to plant. Tile drainage improves the suitability of this soil for farming. Conservation tillage, cover crops, and grasses and legumes included in the cropping system help control erosion. In pasture management, deferred grazing, rotation grazing, and stocking rates within carrying capacity help improve pasture productivity.

Potential productivity of eastern white pine on this soil is very high. In some years the seasonal high water table hinders logging operations in spring or after prolonged wet periods. Logging during wet periods ruts woodland access roads and skid trails.

The seasonal high water table, slow or moderately slow permeability in the hardpan, and potential frost action are limitations to use of this soil for urban development. Special design and installation are needed for septic tank absorption fields. Raised absorption beds and larger absorption fields are common designs used on this soil. Curtain drains around foundations and sealed foundation walls help prevent wet basements. Using coarser grained subgrade or base material helps prevent damage to local roads and streets caused by frost heave. On construction sites, establishing a plant cover helps control erosion.

This soil is in capability subclass IIe.

559B—Skerry fine sandy loam, 3 to 8 percent slopes, very stony. This is a gently sloping, moderately well drained soil on crests of broad, rounded hills or on lower foot slopes of glaciated uplands in the southern part of the county. Areas of this soil are generally irregular in shape or oblong, and range from 4 to 30 acres in size. Stones, on average, 20 inches in diameter are 10 to 50 feet apart and cover 0.5 to 3 percent of the surface area.

Typically, the surface layer is black fine sandy loam about 1 inch thick. The subsoil is about 18 inches thick. It is dark brown and dark yellowish brown fine sandy loam in the upper part and mottled, yellowish brown fine sandy loam in the lower part. The substratum to a depth of 60 inches or more is mottled, olive yellow gravelly loamy sand in the upper part and mottled, pale olive gravelly loamy sand in the lower part. The substratum, or hardpan, is firm.

Included with this soil in mapping are small areas of Pillsbury soils in low spots and small areas of Becket and Marlow soils on rises. Also included, scattered throughout this map unit, are areas of Peru and Sunapee soils. These soils make up as much as 20 percent of the map unit. Also included are a few areas of soils that have slopes of more than 8 percent.

Permeability of this Skerry soil is moderate in the surface layer and subsoil and slow or moderately slow in the firm, compacted substratum, or hardpan. The available water capacity is moderate. Depth to bedrock is more than 60 inches. The seasonal high water table is at a depth of 1.5 to 2.5 feet from November through May. The hardpan is at a depth of 15 to 35 inches and limits the rooting depth of plants. Potential frost action is high.

Most areas of this soil are woodland. A few areas are used for unimproved pasture or as homesites.

This soil is not suited to cultivated crops and hay and poorly suited to pasture because of stones on the surface. The seasonal high water table is also a limitation to farming. Removal of surface stones and trees will improve the suitability of this soil for farming.

Potential productivity of eastern white pine on this soil is very high. In some years the seasonal high water table hinders logging operations in spring or after prolonged wet periods. Logging during wet periods ruts woodland access roads and skid trails.

The seasonal high water table, slow or moderately slow permeability in the hardpan, stones on the surface,

and potential frost action are limitations to use of this soil for urban development. Special design and installation are needed for septic tank absorption fields. Raised absorption beds and larger absorption fields are common designs on this soil. Curtain drains around foundation walls and sealed foundations help prevent wet basements. Using coarser grained subgrade or base material helps prevent the damage to local roads and streets caused by frost heave.

This soil is in capability subclass VIs.

559C—Skerry fine sandy loam, 8 to 15 percent slopes, very stony. This is a strongly sloping, moderately well drained soil along drainageways and on lower foot slopes of glaciated uplands in the southern part of the county. Areas of this soil are generally irregular in shape or oblong, and range from 4 to 100 acres in size. Stones, on average, 20 inches in diameter are 10 to 50 feet apart and cover 0.5 to 3 percent of the surface.

Typically, the surface layer is black fine sandy loam about 1 inch thick. The subsoil is about 18 inches thick. It is dark brown and dark yellowish brown fine sandy loam in the upper part and mottled, yellowish brown fine sandy loam in the lower part. The substratum to a depth of 60 inches or more is mottled, olive yellow gravelly loamy sand in the upper part and mottled, pale olive gravelly loamy sand in the lower part. The substratum, or hardpan, is firm.

Included with this soil in mapping are small areas of Pillsbury soils in low spots and along drainageways and small areas of Becket and Marlow soils on rises. Also included, scattered throughout the map unit, are areas of Peru and Sunapee soils. These soils make up as much as 20 percent of the map unit.

Permeability of this Skerry soil is moderate in the surface layer and subsoil and slow or moderately slow in the firm, compacted substratum, or hardpan. The available water capacity is moderate. Depth to bedrock is more than 60 inches. The seasonal high water table is at a depth of 1.5 to 2.5 feet from November through May. The hardpan is at a depth of 15 to 35 inches and limits the rooting depth of plants. Potential frost action is high.

Most areas of this soil are woodland. A few areas are used for unimproved pasture or as homesites.

This soil is not suited to cultivated crops and hay and poorly suited to pasture, because of stones on the surface. Slope and the seasonal high water table are also limitations to use. Removal of surface stones and trees improves the suitability of this soil for farming.

Potential productivity of eastern white pine on this soil is very high. In some years the seasonal high water table hinders logging operations in spring or after prolonged wet periods. Logging during wet periods increases the erosion hazard and causes damage to woodland access roads and skidder trails. Constructing woodland access roads on the contour helps control erosion.

The seasonal high water table, slow or moderately slow permeability in the hardpan, stones on the surface, slope, and potential frost action are limitations to use of this soil for urban development. Special design and installation are needed for septic tank absorption fields. Raised absorption beds and larger absorption fields are common designs used on this soil. Curtain drains around foundations, interceptor drains upslope from the foundation, and sealed foundation walls help prevent wet basements. Using coarser grained subgrade or base material helps prevent the damage to local roads and streets caused by frost heave.

This soil is in capability subclass VIs.

613B—Croghan loamy fine sand, 0 to 5 percent slopes. This is a nearly level or gently sloping, moderately well drained soil on glacial outwash plains and stream terraces. Areas of this soil are generally irregular in shape or oblong. They range from 3 to 50 acres in size, but most areas are 5 to 20 acres.

Typically, the uppermost 5 inches of this soil is a very dark brown, well decomposed organic mat. The subsurface layer is gray loamy fine sand about 2 inches thick. The subsoil is about 18 inches thick. It is, proceeding downward, dark reddish brown and red loamy fine sand, dark brown and dark red loamy fine sand, dark yellowish brown gravelly sand, and light olive brown sand. The substratum, to a depth of 60 inches of more, is mottled, light olive brown sand in the upper part and mottled, grayish brown stratified sands in the lower part.

Included with this soil in mapping are small areas of Naumburg soils in low spots and Adams soil on rises. Also included are small areas of soils that have silts and very fine sands in the substratum and areas of soils that have stones, boulders, or both on the surface. These soils make up as much as 15 percent of the map unit. Also included are Sheepscot soils, which are similar to this Croghan soil. Also included are areas of soils that are similar to this Croghan soil but that have cemented soil material in the subsoil or are fine sandy loam in the upper part of the subsoil. These soils make up as much as 15 percent of the map unit.

Permeability of this Croghan soil is rapid in the subsurface layer and very rapid in the subsoil and substratum. The available water capacity is low. Depth to bedrock is more than 60 inches. The seasonal high water table is at a depth of 1.5 to 2 feet from November through May. Potential frost action is moderate.

Most areas of this soil are woodland. Other areas are used for hay, corn, or pasture. A few areas are used as homesites or campgrounds.

This soil is suited to cultivated crops, hay, and pasture. The main limitation to these uses are droughtiness and low natural fertility. Irrigation and applications of lime and

fertilizer are needed for good crop yields. Cover crops, manure applications, and crop residue returned to the soil help maintain soil tilth and organic matter content. The seasonal high water table in spring delays cultivation and planting and restricts the choice of crops to plant. In pasture management, deferred grazing, stocking rates within carrying capacity, and rotation grazing help improve pasture productivity. In some areas animal traffic in early spring or during wet periods ruts and compacts the surface layer.

Potential productivity of eastern white pine on this soil is very high. There are few limitations to forest management and logging operations. In some years the seasonal high water table delays logging operations in spring.

The seasonal high water table, slope, and potential frost action are limitations to use of this soil as sites for urban development. If the soil is used as sites for septic tank absorption fields, ground water pollution is a hazard. The soil readily absorbs but does not adequately filter the effluent because of very rapid permeability. Special design and installation of septic tank absorption fields are needed to prevent ground water pollution. Raised absorption beds are commonly used on this soil. Curtain drains around house foundations and sealed foundation walls help prevent wet basements. The soil is a probable source of sand for use in construction.

This soil is in capability subclass IIw.

646B—Pillsbury loamy fine sandy loam, 0 to 5 percent slopes. This is a nearly level or gently sloping, poorly drained or somewhat poorly drained soil in depressions and along drainageways of glaciated uplands. Areas of this soil are long and narrow or irregular in shape, and range from 3 to 40 acres in size.

Typically, the surface layer is dark brown fine sandy loam about 8 inches thick. The subsoil is about 11 inches thick. It is mottled, light olive brown fine sandy loam in the upper part and mottled, light brownish gray fine sandy loam in the lower part. The substratum extends to a depth of 60 inches or more. It is mottled, olive brown fine sandy loam in the upper part and dark grayish brown and olive brown fine sandy loam in the lower part. The substratum, or hardpan, is firm.

Included with this soil in mapping are small areas of Peru and Skerry soils on rises. Also included are small areas of Lyme and Moosilauke soils in the lowest part of depressions or along stream channels. These soils make up as much as 15 percent of the map unit. Also included are some areas of soils that are similar to this Pillsbury soil, but have a loamy sand or loamy fine sand texture in the substratum.

Permeability of this Pillsbury soil is moderate in the subsurface layer and subsoil and slow in the firm, compacted substratum, or hardpan. The available water capacity is moderate. Depth to bedrock is more than 60 inches. The seasonal high water table is between the surface and a depth of 1.5 feet from November through May. The hardpan is at a depth of 15 to 30 inches and limits the rooting depth of plants. Potential frost action is high.

Most areas of this soil had been cleared of stones and trees and farmed at one time, but have reverted to woodland. Some areas are idle land. Other areas are used for pasture or hay.

This soil is poorly suited to hay, pasture, and cultivated crops. The main limitation is the seasonal high water table. Tile drainage or open ditches will improve the suitability of the soil for some agricultural uses. The soil dries out and warms up slowly in spring; consequently, cultivation and planting are delayed and the choice of crops to plant is restricted. The seasonal high water table limits harvest operations. In some areas animal traffic during wet periods ruts pastures. Restricted grazing in early spring and during wet periods helps prevent damage to the surface of this soil.

Potential productivity of eastern white pine on this soil is high. Seedling mortality is moderate, and windthrow is a severe hazard. The seasonal high water table restricts use of equipment in both logging operations and forest management. Logging in winter when the ground is frozen helps prevent damage by equipment operations to the soil surface.

The seasonal high water table, potential frost action, and slow permeability in the hardpan are limitations to use of this soil for urban development. Potential of the soil is fair as habitat for wetland wildlife.

This soil is in capability subclass IVw.

647B—Pillsbury loamy fine sandy loam, 0 to 5 percent slopes, very stony. This is a nearly level to gently sloping, poorly drained to somewhat poorly drained soil in depressions and along drainageways of the glaciated uplands. Areas of this soil are long and narrow or irregular in shape, and range from 3 to 30 acres in size. Stones, on average, 20 inches in diameter are 10 to 50 feet apart and cover 0.5 to 3 percent of the surface.

Typically, the surface layer is covered by a mat of black, well decomposed organic material 1 inch thick. The surface layer is dark brown fine sandy loam about 4 inches thick. The subsurface layer is grayish brown fine sandy loam about 3 inches thick. The subsoil is about 11 inches thick. It is fine sandy loam that is mottled, light olive brown in the upper part and mottled, light brownish gray in the lower part. The substratum extends to a depth of 60 inches or more. It is mottled, olive brown fine sandy loam in the upper part and dark grayish brown and olive brown fine sandy loam in the lower part. The substratum, or hardpan, is firm.

Included with this soil in mapping are small areas of Peru and Skerry soils on rises. Also included are small areas of Chocorua, Lyme, and Moosilauke soils in the lowest part of the depressions or along stream channels.

These soils make up as much as 15 percent of the map unit. Also included are some areas of soils that are similar to this Pillsbury soil but have loamy sand or loamy fine sand textures in the substratum. Also included are some areas of soils that have a thick, dark surface layer. These soils make up as much as 15 percent of the map unit.

Permeability of this Pillsbury soil is moderate in the subsurface layer and subsoil and slow in the firm, compacted substratum, or hardpan. The available water capacity is moderate. Depth to bedrock is more than 60 inches. The seasonal high water table is between the surface and a depth of 1.5 feet from November through May. The hardpan is at a depth of 15 to 30 inches and limits the rooting depth of plants. Potential frost action is high.

Most areas of this soil are woodland. A few areas are used for unimproved pasture.

This soil is not suited to hay and cultivated crops and poorly suited to pasture, because of the seasonal high water table and surface stones. Installing tile drainage or open ditches and removing stones and trees will improve the suitability of this soil for pasture.

Potential productivity of eastern white pine on this soil is high. Seedling mortality is moderate and windthrow is a severe hazard. The seasonal high water table restricts use of equipment in both logging operations and forest management. Logging in winter when the ground is frozen helps prevent damage to the soil surface.

The seasonal high water table, potential frost action, and slow permeability of the hardpan are severe limitations to use of this soil for urban development. Potential of this soil as habitat for wetland wildlife is fair.

This soil is in capability subclass VIIs.

771C—Berkshire and Monadnock soils, 8 to 15 percent slopes, extremely bouldery. This map unit consists of strongly sloping, well drained soils on hilltops, side slopes, and plains of the glaciated uplands. They are mainly in the town of Stoddard and in Pisgah State Park in the towns of Winchester and Chesterfield. Total acres of the unit is about 50 percent Berkshire soils, 30 percent Monadnock soils, and 20 percent other soils. Some areas are mostly Berkshire soils, some areas are mostly Monadnock soils, and some areas consist of both. Areas of these soils are generally irregular in shape and range from 10 to 100 acres in size. Boulders, on average, 48 inches in diameter are 10 to 50 feet apart and cover 3 to 15 percent of the surface. Some boulders, however, are 8 to 12 feet in diameter, and a few are even as much as 30 feet in diameter. These soils were mapped together because they are similar in use and management.

Typically, the surface layer of the Berkshire soils is very dark grayish brown fine sandy loam about 3 inches thick. The subsoil is about 32 inches thick. It is, proceeding downward, yellowish red fine sandy loam, dark brown fine sandy loam, yellowish brown fine sandy loam, and light olive brown gravelly fine sandy loam. The substratum to a depth of 60 inches or more is grayish brown gravelly sandy loam.

Typically, the surface layer of the Monadnock soils is brown fine sandy loam about 3 inches thick. The subsurface layer is light brownish gray sandy loam about 2 inches thick. The subsoil is about 18 inches thick. It is reddish brown fine sandy loam in the upper part and yellowish brown fine sandy loam in the lower part. The substratum to a depth of 60 inches or more is olive gravelly loamy sand.

Included with these soils in mapping are areas of Marlow, Becket, Tunbridge, Skerry, Sunapee, Peru, Moosilauke, and Lyme soils. Marlow and Becket soils are on smoother side slopes, and Tunbridge soils are on rises or the tops of knolls. Skerry, Sunapee, Peru, Moosilauke, and Lyme soils are in low spots and along drainageways. Also included are areas of soils that are 35 percent, by volume, rock fragments above the substratum. Also included are a few small areas of exposed bedrock. These areas make up as much as 20 percent of the map unit.

Permeability in the Berkshire soils is moderate or moderately rapid. The available water capacity is moderate. Depth to bedrock is generally more than 60 inches. The seasonal high water table is at a depth of more than 6 feet. Potential frost action is moderate.

Permeability in the Monadnock soils is moderate above the substratum and moderately rapid in the substratum. The available water capacity is moderate. Depth to bedrock is generally more than 60 inches. The seasonal high water table is at a depth of more than 6 feet. Potential frost action is low.

Most areas of the soils in this map unit are wooded. A few areas are used as homesites or campgrounds.

These soils are not suited to cultivated crops and hay and poorly suited to pasture because of the extremely bouldery surface (fig. 17).

Potential productivity of eastern white pine is high for both soils. The large boulders limit use of equipment in forestry management and logging operations. Laying out access by logging roads is very difficult or impossible because of the large size and closeness of the boulders.

The large boulders and slope limit use of these soils for urban development. Finding areas large enough for homesites and septic tank absorption fields between the large boulders is difficult. Removal of the smaller boulders adds considerably to construction costs. Some large boulders cannot be removed and commonly have been made part of the landscaping of a homesite or campground.

This soil is in capability subclass VIIs.

771D—Berkshire and Monadnock soils, 15 to 35 percent slopes, extremely bouldery. This map unit consists of moderately steep and steep, well drained

Figure 17.—This area of Berkshire and Monadnock soils, 8 to 15 percent slopes, extremely bouldery, is used for pasture.

soils on side slopes of hills of glaciated uplands. They are mainly in the town of Stoddard and in Pisgah State Park in the towns of Winchester and Chesterfield. Total acreage of the unit is 50 percent Berkshire soils, 30 percent Monadnock soils, and 20 percent other soils. Some areas are mostly Berkshire soils, some areas are mostly Monadnock soils, and some areas consist of both. Areas of these soils are generally irregular in shape and range from 10 to 80 acres in size. Boulders, on average, 48 inches in diameter are 10 to 50 feet apart and cover 3 to 15 percent of the surface. Some boulders, however, are 8 to 12 feet in diameter and a few boulders are as much as 30 feet in diameter. These soils were mapped together because they are similar in use and management.

Typically, the surface layer of the Berkshire soils is very dark grayish brown fine sandy loam about 3 inches thick. The subsoil is about 32 inches thick. It is, proceeding downward, yellowish red fine sandy loam, dark brown fine sandy loam, yellowish brown fine sandy loam, and light olive brown gravelly fine sandy loam. The substratum to a depth of 60 inches or more is grayish brown gravelly sandy loam.

Typically, the surface layer of the Monadnock soils is brown fine sandy loam about 3 inches thick. The subsurface layer is light brownish gray sandy loam about 2 inches thick. The subsoil is about 18 inches thick. It is reddish brown fine sandy loam in the upper part and yellowish brown fine sandy loam in the lower part. The substratum to a depth of 60 inches or more is olive gravelly loamy sand.

Included with these soils in mapping are areas of Marlow, Becket, Tunbridge, Skerry, Sunapee, Peru, Moosilauke, and Lyme soils. Marlow and Becket soils

are on smoother side slopes, and Tunbridge soils are on rises or the tops of knolls. Skerry, Sunapee, Peru, Moosilauke, and Lyme soils are in low spots and along drainageways. Also included are areas of soils that are 35 percent, by volume, rock fragments above the substratum. Also included are a few small areas of exposed bedrock. These areas make up as much as 20 percent of the map unit.

Permeability in the Berkshire soils is moderate or moderately rapid. The available water capacity is moderate. Depth to bedrock is generally more than 60 inches. The seasonal high water table is at a depth of more than 6 feet. Potential frost action is moderate.

Permeability in the Monadnock soils is moderate above the substratum and moderately rapid in the substratum. The available water capacity is moderate. Depth to bedrock is generally more than 60 inches. The seasonal high water table is at a depth of more than 6 feet. Potential frost action is low.

Almost all areas of the soils in this map unit are wooded. A few areas are used as homesites or campgrounds.

These soils are not suited to agricultural uses or urban development because of the extremely bouldery surface and slope.

Potential productivity of eastern white pine is high on both soils. The large boulders and slope limit use of equipment in forest management and logging operations. Laying out access by logging roads is very difficult or impossible because of the large size and closeness of the boulders.

This soil is in capability subclass VIIs.

Prime Farmland

Prime farmland is one of several kinds of important farmlands defined by the U.S. Department of Agriculture. Identification of prime farmland is a major step in meeting the Nation's needs for food and fiber.

The U.S. Department of Agriculture defines prime farmland as the land that is best suited to producing food, feed, forage, fiber, and oilseed crops. It has the soil quality, growing season, and moisture supply needed to produce a sustained high yield of crops while using acceptable farming methods. Prime farmland produces the highest yields and requires minimal amounts of energy and economic resources, and farming it results in the least damage to the environment.

An area identified as prime farmland must be used for producing food or fiber or must be available for those uses. Thus, urban and built-up land and water areas are not classified as prime farmland.

The general criteria for prime farmland are as follows: a generally adequate and dependable supply of moisture from precipitation or irrigation, favorable temperature and growing-season length, acceptable levels of acidity or alkalinity, few or no rocks, and permeability to air and water. Prime farmland is not excessively erodible, is not saturated with water for long periods, and is not flooded during the growing season. The slope range is mainly from 0 to 6 percent. For more detailed information on the criteria for prime farmland, consult the local staff of the Soil Conservation Service.

The survey area contains about 22,700 acres of prime farmland. That acreage makes up about 5.0 percent of the total acreage in the survey area and is mainly in the western and central parts of the county.

The soil map units that make up prime farmland in the survey area are listed in table 5. This list does not constitute a recommendation for a particular land use. The extent of each listed map unit is shown in table 4, and the location of each unit is shown on the detailed soil maps at the back of this publication. The soil properties and characteristics that affect use and management of the units are described in the section "Detailed Soil Map Units."

Some soils in table 5 are classified as prime farmland if certain limitations of the soil are overcome. The measures needed to overcome the limitations of such soils are given in parentheses after the name of the map unit.

Use and Management of the Soils

This soil survey is an inventory and evaluation of the soils in the survey area. It can be used to adjust land uses to the limitations and potentials of natural resources and the environment. Also, it can help avoid soil-related failures in land uses.

In preparing a soil survey, soil scientists, conservationists, engineers, and others collect extensive field data about the nature and behavior characteristics of the soils. They collect data on erosion, droughtiness, flooding, and other factors that affect various soil uses and management. Field experience and collected data on soil properties and performance are used as a basis in predicting soil behavior.

Information in this section can be used to plan the use and management of soils for crops and pasture; as woodland; as sites for buildings, sanitary facilities, highways and other transportation systems, and parks and other recreation facilities; and for wildlife habitat. It can be used to identify the potentials and limitations of each soil for specific land uses and to help prevent construction failures caused by unfavorable soil properties.

Planners and others using soil survey information can evaluate the effect of specific land uses on productivity and on the environment in all or part of the survey area. The survey can help planners to maintain or create a land use pattern in harmony with the natural soil.

Contractors can use this survey to locate sources of sand and gravel, roadfill, and topsoil. They can use it to identify areas where bedrock, wetness, or very firm soil layers can cause difficulty in excavation.

Health officials, highway officials, engineers, and others may also find this survey useful. The survey can help them plan the safe disposal of wastes and locate sites for pavements, sidewalks, campgrounds, playgrounds, lawns, and trees and shrubs.

Crops and Pasture

General management needed for crops and pasture is suggested in this section. The crops or pasture plants best suited to the soils, including some not commonly grown in the survey area, are identified; the system of land capability classification used by the Soil Conservation Service is explained; and the estimated yields of the main crops and hay and pasture plants are listed for each soil.

Planners of management systems for individual fields or farms should consider the detailed information given in the description of each soil under "Detailed Soil Map Units." Specific information can be obtained from the local office of the Soil Conservation Service or the Cooperative Extension Service.

The 1978 Census of Agriculture shows 19,750 acres of crops and pasture in Cheshire County. Of that total, 11,890 acres was used for crops and 7,400 acres was used for pasture (*9*). Of the acreage used as cropland, about 3,245 acres was used for corn, 8,820 acres was used for hay, 170 acres was used for vegetables, 35 acres was used for orchards, and about 170 acres was used for berries and nursery products. The acreage in crops and pasture has gradually decreased because more land is in urban, industrial, and other nonfarm uses.

Erosion is the major management concern on most of the cropland and pasture in the county. Factors that affect soil erosion are slope, type of soil, rainfall, and amount and type of plant cover. Erosion is a hazard where slope is more than 3 percent. Many soils used as cropland are on slopes of more than 3 percent. For example, Marlow, Bernardston, Berkshire, Monadnock, and Dutchess soils are commonly used for row crops on slopes of 3 to 15 percent. On soils that have a high content of silt and very fine sand and have no rock fragments, such as Unadilla, Scio, and Agawam soils, erosion is a severe hazard.

Loss of soil through erosion is damaging for several reasons. Productivity of the soil is reduced as the surface layer is lost. The surface layer contains most of the available nutrients and organic matter. Erosion also causes stream pollution. Sediment, some of which may carry animal wastes or agricultural chemicals, reduces water quality. Loss of the surface layer is especially damaging on soils that have an underlying hardpan or that are underlain by bedrock. On these soils, erosion greatly decreased the root zone and the available water capacity. Bernardston, Marlow, Pittstown, and Peru soils are examples of soils that have a hardpan. Cardigan, Kearsarge, Tunbridge, and Lyman soils are examples of soils that are shallow or moderately deep over bedrock. The loss of the surface layer through erosion on droughty soils can greatly reduce the available water capacity and reduce crop yields. Windsor, Colton, Hoosic, and Merrimac soils, for example, are droughty.

Conservation practices, such as contour farming, stripcropping, diversions, terraces, and conservation tillage, help to control erosion. Further, a cropping system that covers the soil for extended periods helps control erosion. Grasses and legumes included in a cropping system help control erosion on sloping land, and provide nitrogen and improve tilth for the following crop. Erosion control practices protect the surface, reduce runoff, and increase infiltration of water.

Drainage is another management concern for many soils in Cheshire County. Several of the soils have a seasonal high water table. A seasonal high water table is the result of landscape position, rate of runoff, and rate of infiltration. These soils are commonly on lower slopes and receive an increased amount of water from surface runoff from higher areas. Some gently sloping soils have a seasonal high water table because the rate of runoff is slow and more water infiltrates the soil. Soils that have slow or moderately slow permeability in the substratum, generally because of a compacted hardpan, can also have a seasonal high water table. Peru, Pittstown, Skerry, Sunapee, Pootatuck, Scio, and Ninigret soils, for example, have a seasonal high water table.

Soils that have a seasonal high water table usually dry out and warm up slowly in spring; consequently, planting is delayed. Installing a drainage system improves the suitability of these soils for crops. The design needed for a drainage system varies with the kind of soil and the location. Subsurface tile drainage is common on soils that have a seasonal high water table.

The very poorly drained soils in Cheshire County are so wet that the production of crops generally is not feasible. These soils commonly cannot be drained because a suitable outlet is not available. The poorly drained and somewhat poorly drained soils are too wet for good crop production. Subsurface tile drainage or open ditches and the use of water-tolerant crops improve the suitability of these wet soils for farming. Pillsbury, Naumburg, Raynham, and Wareham soils are examples of poorly drained or somewhat poorly drained soils. Areas of these soils commonly are in fields of better drained soils that are used for cultivated crops or pasture. Consequently, drainage of these soils is needed to improve the suitability of the whole field.

Surface stones, boulders, and areas of rock outcrops severely limit use of the soils for crops and pasture in many areas of Cheshire County. Almost all upland soils that formed in glacial till are stony. On most upland soils used for crops and pasture, the surface has been cleared of stones and boulders. Stones and boulders are on the surface of some areas used for pasture, but they interfere with reseeding and fertilizing. Cultivating and planting crops on very stony, extremely stony, and extremely bouldery soils are as commonly impractical as on soils that have areas of rock outcrop. Removing surface stones is needed to improve the suitability of these soils for both pasture and crops.

Fertility in most soils in Cheshire County is naturally low. The soils generally are extremely acid to slightly acid. Fertility of the soils on flood plains, such as Occum, Hadley, Pootatuck, and Winooski soils, generally is better than that of the terrace and upland till soils. In most areas of cropland many applications of lime and fertilizer have altered the natural fertility and acidity of the soils. If the soils have not been limed, substantial applications of lime are required to decrease acidity sufficiently to grow alfalfa and other crops that require less acid soils. In most soils available phosphorus and potash are at low levels, and applications of fertilizer are needed to increase crop yields.

Organic matter is a major source of nitrogen in soils. On most soils used as cropland, the surface layer is loam, silt loam, very fine sandy loam, fine sandy loam, or sandy loam. On these soils, originally the organic matter content was adequate. After many years of continuous cropping, many of these soils are low in organic matter content. Regular additions of crop residue and animal manure will help to increase the organic matter content. In addition to increasing the availability of nitrogen for plants, high organic matter content in the surface layer improves water infiltration, soil structure, and available water capacity.

Tilth is important for the emergence of seedlings and infiltration of water into the soil. Soils that have good tilth generally have a granular structure and are porous. Adding organic matter to the soil helps maintain good tilth.

Available water capacity is low or very low in some of the soils in the county. Examples of soils with low available water capacity or droughty soils are Caesar, Windsor, Colton, and Adams soils. The addition of organic matter to these soils helps to improve the available water capacity. If these soils are to be cropped intensely, then irrigation is needed to obtain high crop yields.

Field crops commonly grown in the county are corn and hay. Corn is raised mostly for silage as feed for dairy cows, and partly for grain. Hay is generally an alfalfa-grass mix. A small acreage of alfalfa is grown in pure stands. Some fields are primarily grasses, commonly, timothy, bromegrass, orchardgrass, and tall fescue.

Specialty crops grown in the county are small fruits, vegetables, and apples. The commonly grown small fruits are strawberries, raspberries, and blueberries. The most common commercially grown vegetables are sweet corn, tomatoes, squash, pumpkins, beans, and peas. The popularity of farmers markets and "U"-pick farms has increased the acreage of specialty crops in the county. Very deep, well drained, nearly level and gently sloping, friable soils, such as Unadilla, Agawam, Occum, and Hadley soils, are well suited to small fruits and vegetables.

Yields Per Acre

The average yields per acre that can be expected of the principal crops under a high level of management are shown in table 6. In any given year, yields may be higher or lower than those indicated in the table because of variations in rainfall and other climatic factors. The land capability classification of each map unit also is shown in the table.

The yields are based mainly on the experience and records of farmers, conservationists, and extension agents. Available yield data from nearby counties and results of field trials and demonstrations are also considered.

The management needed to obtain the indicated yields of the various crops depends on the kind of soil and the crop. Management can include drainage, erosion control, and protection from flooding; the proper planting and seeding rates; suitable high-yielding crop varieties; appropriate and timely tillage; control of weeds, plant diseases, and harmful insects; favorable soil reaction and optimum levels of nitrogen, phosphorus, potassium, and trace elements for each crop; effective use of crop residue, barnyard manure, and green manure crops; and harvesting that ensures the smallest possible loss.

The estimated yields reflect the productive capacity of each soil for each of the principal crops. Yields are likely to increase as new production technology is developed. The productivity of a given soil compared with that of other soils, however, is not likely to change.

Crops other than those shown in table 6 are grown in the survey area, but estimated yields are not listed because the acreage of such crops is small. The local office of the Soil Conservation Service or of the Cooperative Extension Service can provide information about the management and productivity of the soils for those crops.

Land Capability Classification

Land capability classification shows, in a general way, the suitability of soils for most kinds of field crops. Crops that require special management are excluded. The soils are grouped according to their limitations for field crops, the risk of damage if they are used for crops, and the way they respond to management. The criteria used in grouping the soils do not include major and generally expensive landforming that would change slope, depth, or other characteristics of the soils, nor do they include possible but unlikely major reclamation projects. Capability classification is not a substitute for interpretations designed to show suitability and limitations of groups of soils for woodland or for engineering purposes.

In the capability system, soils are generally grouped at three levels: capability class, subclass, and unit. Only class and subclass are used in this survey. The levels are defined in the following paragraphs.

Capability classes, the broadest groups, are designated by Roman numerals I through VIII. The numerals indicate progressively greater limitations and narrower choices for practical use. The classes are defined as follows:

Class I soils have slight limitations that restrict their use.

Class II soils have moderate limitations that reduce the choice of plants or that require moderate conservation practices.

Class III soils have severe limitations that reduce the choice of plants or that require special conservation practices, or both.

Class IV soils have very severe limitations that reduce the choice of plants or that require very careful management, or both.

Class V soils are not likely to erode but have other limitations, impractical to remove, that limit their use.

Class VI soils have severe limitations that make them generally unsuitable for cultivation.

Class VII soils have very severe limitations that make them unsuitable for cultivation.

Class VIII soils and miscellaneous areas have limitations that nearly preclude their use for commercial crop production.

Capability subclasses are soil groups within one class. They are designated by adding a small letter, *e, w, s,* or *c,* to the class numeral, for example, IIe. The letter *e* shows that the main limitation is risk of erosion unless close-growing plant cover is maintained; *w* shows that water in or on the soil interferes with plant growth or cultivation (in some soils the wetness can be partly corrected by artificial drainage); *s* shows that the soil is limited mainly because it is shallow, droughty, or stony; and *c*, used in only some parts of the United States, shows that the chief limitation is climate that is very cold or very dry.

In class I there are no subclasses because the soils of this class have few limitations. Class V contains only the subclasses indicated by *w, s,* or *c* because the soils in class V are subject to little or no erosion. They have other limitations that restrict their use to pasture, woodland, wildlife habitat, or recreation.

Capability units are soil groups within a subclass. The soils in a capability unit are enough alike to be suited to the same crops and pasture plants, to require similar management, and to have similar productivity. Capability units are generally designated by adding an Arabic numeral to the subclass symbol, for example, IIe-4 or IIIe-6.

The capability classification of each map unit is given in the section "Detailed Soil Map Units" and in the yields table.

Woodland Management and Productivity

Woodland covers about 392,900 acres, or 84 percent, of Cheshire County. The forests are dominantly mixed northern hardwoods. They also have stands of white pine, mainly on the sandy outwash terraces and plains.

Table 7 can be used by woodland owners or forest managers in planning the use of soils for wood crops. Only those soils suitable for wood crops are listed in the tables. The table gives the ordination symbol for each soil. Soils assigned the same ordination symbol require the same general management and have about the same potential productivity.

The first part of the *ordination symbol*, a number, indicates the potential productivity of the soils for an indicator tree species. The number indicates the volume, in cubic meters per hectare per year, that the indicator species can produce. The larger the number, the greater the potential productivity. The number 1 indicates low productivity; 2 and 3, moderate; 4 and 5, moderately high; 6 through 8, high; 9 through 11, very high; and 12 or more, extremely high.

The second part of the symbol, a letter, indicates the major kind of soil limitation for use and management. The letter *R* indicates steep slopes; *X*, stones or rocks on the surface; *W*, excessive water in or on the soil; *T*, excessive alkalinity, acidity, sodium salts, or other toxic substances in the soil; *D*, restricted rooting depth caused by bedrock, hardpan, or other restrictive layer; *C*, clay in the upper part of the soil; *S*, sandy texture; and *F*, high content of rock fragments in the soil profile. The letter *A* indicates that limitations or restrictions are insignificant. If a soil has more than one limitation, the priority is as follows: R,X,W,T,D,C,S, and F.

In table 7, *slight, moderate,* and *severe* indicate the degree of the major soil limitations to be considered in management.

Erosion hazard is the probability that erosion can occur as a result of site preparation or following cutting operations and where the soil is exposed, for example, roads, skid trails, fire lanes, and log handling areas. Forests that are abused by fire or overgrazing are also subject to erosion. The ratings for the erosion hazard are based on the percent of the slope and on the erosion factor K shown in table 15. A rating of *slight* indicates that no particular measures to prevent erosion are needed under ordinary conditions. A rating of *moderate* indicates that erosion control measures are needed in certain silvicultural activities. A rating of *severe* indicates that special precautions are needed to control erosion in most silvicultural activities.

The proper construction and maintenance of roads, trails, landings, and fire lanes will help overcome the erosion hazard.

Equipment limitation reflects the characteristics and conditions of the soil that restrict use of the equipment generally needed in woodland management or harvesting. The chief characteristics and conditions considered in the ratings are slope, stones on the surface, rock outcrops, soil wetness, and texture of the surface layer. A rating of *Slight* indicates that equipment use normally is not restricted either in kind of equipment that can be used or time of year because of soil factors. If soil wetness is a factor, equipment use can be restricted for a period not to exceed 1 month. A rating of *moderate* indicates that equipment use is moderately restricted because of one or more soil factors. If soil wetness is a factor, equipment use is restricted for 1 to 3 months. A rating of *severe* indicates that equipment use is severely restricted either in kind of equipment or season of use. If soil wetness is a factor, equipment use is restricted for more than 3 months.

Choosing the most suitable equipment and timing harvesting and other management operations to avoid seasonal limitations help overcome the equipment limitation.

Seedling mortality refers to the probability of death of naturally occurring or planted tree seedlings as influenced by kinds of soil or topographic conditions. The factors considered in rating the soils for seedling mortality are texture of the surface layer, depth and duration of the water table, rock fragments in the surface layer, rooting depth, and aspect of the slope. A rating of *slight* indicates that under usual conditions the expected mortality is less than 25 percent. A rating of *moderate* indicates that the expected mortality is 25 to 50 percent. Extra precautions are advisable. A rating of *severe* indicates that the expected mortality is more than 50 percent. Extra precautions are important. Replanting may be necessary.

The use of special planting stock and special site preparation, such as bedding, furrowing, or surface drainage, can help reduce seedling mortality.

Windthrow hazard is the likelihood of trees being uprooted (tipped over) by the wind because the soil is not deep enough for adequate root anchorage. The main restrictions are a seasonal high water table and bedrock or a fragipan or other limiting layer. A rating of *slight* indicates that normally no trees are blown down by the wind. Strong winds may break trees but do not uproot them. A rating of *moderate* indicates that moderate or strong winds occasionally blow down a few trees during periods of soil wetness. A rating of *severe* indicates that moderate or strong winds may blow down many trees during periods of soil wetness.

The use of specialized equipment that does not damage surficial root systems during partial cutting operations can help reduce windthrow. Care in thinning or no thinning also can help reduce windthrow.

Plant competition is the likelihood of the invasion or growth of undesirable species where openings are made in the canopy. The main factors that affect plant competition are depth to the water table and available water capacity of the soil. A rating of *slight* indicates that

competition from unwanted plants is not likely to suppress the more desirable species or prevent their natural regeneration. Planted seedlings have good prospects for development without undue competition. A rating of *moderate* indicates that competition may delay the natural regeneration of desirable species or of planted trees and may hamper stand development, but it will not prevent the eventual development of fully stocked stands. A rating of *severe* indicates that competition can be expected to prevent natural regeneration or restrict planted seedlings unless precautionary measures are taken.

Adequate site preparation before planting the new crop can help reduce plant competition.

The *potential productivity* of merchantable or *common trees* on a soil is expressed as a *site index*. This index is the average height, in feet, that dominant and codominant trees of a given species attain in a specified number of years. The site index applies to fully stocked, even-aged, unmanaged stands. Common trees are those that woodland managers generally favor in intermediate or improvement cuttings. They are selected on the basis of growth rate, quality, value, and marketability.

The *productivity class*, a number, represents an expected volume produced by the most important trees. This number, expressed as cubic meters per hectare per year, indicates the amount of fiber produced on a fully stocked, even-aged, unmanaged stand. One cubic meter per hectare equals 14.3 cubic feet per acre.

The first tree species listed under common trees for a soil is the indicator species for that soil. The indicator species is the species that is common in the area and is generally the most productive on the soil. The productivity class of the indicator species is the number used for the ordination symbol.

Trees to plant are those that are suited to the soil and are planted for commercial wood production.

Recreation

The soils of the survey area are rated in table 8 according to limitations that affect their suitability for recreation. The ratings are based on restrictive soil features, such as wetness, slope, and texture of the surface layer. Susceptibility to flooding is considered. Not considered in the ratings, but important in evaluating a site, are the location and accessibility of the area, the size and shape of the area and its scenic quality, vegetation, access to water, potential water impoundment sites, and access to public sewerlines. The capacity of the soil to absorb septic tank effluent and the ability of the soil to support vegetation are also important. Soils subject to flooding are limited for recreation use by the duration and intensity of flooding and the season when flooding occurs. In planning recreation facilities, onsite assessment of the height, duration, intensity, and frequency of flooding is essential.

In table 8, the degree of soil limitation is expressed as slight, moderate, or severe. *Slight* means that soil properties are generally favorable and that limitations are minor and easily overcome. *Moderate* means that limitations can be overcome or alleviated by planning, design, or special maintenance. *Severe* means that soil properties are unfavorable and that limitations can be offset only by costly soil reclamation, special design, intensive maintenance, limited use, or by a combination of these measures.

The information in table 8 can be supplemented by other information in this survey, for example, interpretations for septic tank absorption fields in table 11 and interpretations for dwellings without basements and for local roads and streets in table 10.

Camp areas require site preparation, such as shaping and leveling the tent and parking areas, stabilizing roads and intensively used areas, and installing sanitary facilities and utility lines. Camp areas are subject to heavy foot traffic and some vehicular traffic. The best soils have mild slopes and are not wet or subject to flooding during the period of use. The surface has few or no stones or boulders, absorbs rainfall readily but remains firm, and is not dusty when dry. Strong slopes and stones or boulders can greatly increase the cost of constructing campsites.

Picnic areas are subject to heavy foot traffic. Most vehicular traffic is confined to access roads and parking areas. The best soils for picnic areas are firm when wet, are not dusty when dry, are not subject to flooding during the period of use, and do not have slopes or stones or boulders that increase the cost of shaping sites or of building access roads and parking areas.

Playgrounds require soils that can withstand intensive foot traffic. The best soils are almost level and are not wet or subject to flooding during the season of use. The surface is free of stones and boulders, is firm after rains, and is not dusty when dry. If grading is needed, the depth of the soil over bedrock or a hardpan should be considered.

Paths and trails for hiking and horseback riding should require little or no cutting and filling. The best soils are not wet, are firm after rains, are not dusty when dry, and are not subject to flooding more than once a year during the period of use. They have moderate slopes and few or no stones or boulders on the surface.

Golf fairways are subject to heavy foot traffic and some light vehicular traffic. Cutting or filling may be required. The best soils for use as golf fairways are firm when wet, are not dusty when dry, and are not subject to prolonged flooding during the period of use. They have moderate slopes and no stones or boulders on the surface. The suitability of the soil for tees or greens is not considered in rating the soils.

Wildlife Habitat

Soils affect the kind and amount of vegetation that is available to wildlife as food and cover. They also affect the construction of water impoundments. The kind and abundance of wildlife depend largely on the amount and distribution of food, cover, and water. Wildlife habitat can be created or improved by planting appropriate vegetation, by maintaining the existing plant cover, or by promoting the natural establishment of desirable plants.

In table 9, the soils in the survey area are rated according to their potential for providing habitat for various kinds of wildlife. This information can be used in planning parks, wildlife refuges, nature study areas, and other developments for wildlife; in selecting soils that are suitable for establishing, improving, or maintaining specific elements of wildlife habitat; and in determining the intensity of management needed for each element of the habitat.

The potential of the soil is rated good, fair, poor, or very poor. A rating of *good* indicates that the element or kind of habitat is easily established, improved, or maintained. Few or no limitations affect management, and satisfactory results can be expected. A rating of *fair* indicates that the element or kind of habitat can be established, improved, or maintained in most places. Moderately intensive management is required for satisfactory results. A rating of *poor* indicates that limitations are severe for the designated element or kind of habitat. Habitat can be created, improved, or maintained in most places, but management is difficult and must be intensive. A rating of *very poor* indicates that restrictions for the element or kind of habitat are very severe and that unsatisfactory results can be expected. Creating, improving, or maintaining habitat is impractical or impossible.

The elements of wildlife habitat are described in the following paragraphs.

Grain and seed crops are domestic grains and seed-producing herbaceous plants. Soil properties and features that affect the growth of grain and seed crops are depth of the root zone, texture of the surface layer, available water capacity, wetness, slope, surface stoniness, and flood hazard. Soil temperature and soil moisture are also considerations. Examples of grain and seed crops are corn, wheat, oats, and barley.

Grasses and legumes are domestic perennial grasses and herbaceous legumes. Soil properties and features that affect the growth of grasses and legumes are depth of the root zone, texture of the surface layer, available water capacity, wetness, surface stoniness, flood hazard, and slope. Soil temperature and soil moisture are also considerations. Examples of grasses and legumes are fescue, timothy, bromegrass, clover, and alfalfa.

Wild herbaceous plants are native or naturally established grasses and forbs, including weeds. Soil properties and features that affect the growth of these plants are depth of the root zone, texture of the surface layer, available water capacity, wetness, surface stoniness, and flood hazard. Soil temperature and soil moisture are also considerations. Examples of wild herbaceous plants are bluestem, goldenrod, plantain, quackgrass, and ragweed.

Hardwood trees and woody understory produce nuts or other fruit, buds, catkins, twigs, bark, and foliage. Soil properties and features that affect the growth of hardwood trees and shrubs are depth of the root zone, available water capacity, and wetness. Examples of these plants are oak, birch, cherry, maple, apple, hawthorn, dogwood, hickory, blackberry, and blueberry. Examples of fruit-producing shrubs that are suitable for planting on soils rated *good* are gray dogwood, autumn-olive, and crabapple.

Coniferous plants furnish browse and seeds. Soil properties and features that affect the growth of coniferous trees, shrubs, and ground cover are depth of the root zone, available water capacity, and wetness. Examples of coniferous plants are pine, spruce, yew, cedar, and hemlock.

Wetland plants are annual and perennial wild herbaceous plants that grow on moist or wet sites. Submerged or floating aquatic plants are excluded. Soil properties and features affecting wetland plants are texture of the surface layer, wetness, reaction, slope, and surface stoniness. Examples of wetland plants are smartweed, arrowhead, burreed, pickerel weed, cordgrass, rushes, sedges, and reeds.

Shallow water areas have an average depth of less than 5 feet. Some are naturally wet areas. Others are created by dams, levees, or other water-control structures. Soil properties and features affecting shallow water areas are depth to bedrock, wetness, surface stoniness, slope, and permeability. Examples of shallow water areas are marshes, swamps, and ponds.

The habitat for various kinds of wildlife is described in the following paragraphs.

Habitat for openland wildlife consists of cropland, pasture, meadows, and areas that are overgrown with grasses, herbs, shrubs, and vines. These areas produce grain and seed crops, grasses and legumes, and wild herbaceous plants. The wildlife attracted to these areas include woodchuck, meadowlark, field sparrow, cottontail, and red fox.

Habitat for woodland wildlife consists of areas of deciduous plants or coniferous plants or both and associated grasses, legumes, and wild herbaceous plants. Wildlife attracted to these areas include wild turkey, ruffed grouse, woodcock, thrushes, woodpeckers, squirrels, gray fox, raccoon, and deer.

Habitat for wetland wildlife consists of open, marshy or swampy shallow water areas. Some of the wildlife attracted to such areas are ducks, geese, herons, shore birds, muskrat, mink, frogs, and beaver.

Engineering

This section provides information for planning land uses related to urban development and to water management. Soils are rated for various uses, and the most limiting features are identified. The ratings are given in the following tables: Building site development, Sanitary facilities, Construction materials, and Water management. The ratings are based on observed performance of the soils and on the estimated data and test data in the "Soil Properties" section.

Information in this section is intended for land use planning, for evaluating land use alternatives, and for planning site investigations prior to design and construction. The information, however, has limitations. For example, estimates and other data generally apply only to that part of the soil within a depth of 5 or 6 feet. Because of the map scale, small areas of different soils may be included within the mapped areas of a specific soil.

The information is not site specific and does not eliminate the need for onsite investigation of the soils or for testing and analysis by personnel experienced in the design and construction of engineering works.

Government ordinances and regulations that restrict certain land uses or impose specific design criteria were not considered in preparing the information in this section. Local ordinances and regulations need to be considered in planning, in site selection, and in design.

Soil properties, site features, and observed performance were considered in determining the ratings in this section. During the fieldwork for this soil survey, determinations were made about grain-size distribution, liquid limit, plasticity index, soil reaction, depth to bedrock, hardness of bedrock within 5 to 6 feet of the surface, soil wetness, depth to a seasonal high water table, slope, likelihood of flooding, natural soil structure aggregation, and soil density. Data were collected about kinds of clay minerals, mineralogy of the sand and silt fractions, and the kind of adsorbed cations. Estimates were made for erodibility, permeability, corrosivity, shrink-swell potential, available water capacity, and other behavioral characteristics affecting engineering uses.

This information can be used to (1) evaluate the potential of areas for residential, commercial, industrial, and recreation uses; (2) make preliminary estimates of construction conditions; (3) evaluate alternative routes for roads, streets, highways, pipelines, and underground cables; (4) evaluate alternative sites for septic tank absorption fields and sewage lagoons; (5) plan detailed onsite investigations of soils and geology; (6) locate potential sources of gravel, sand, earthfill, and topsoil; (7) plan drainage systems, irrigation systems, ponds, terraces, and other structures for soil and water conservation; and (8) predict performance of proposed small structures and pavements by comparing the performance of existing similar structures on the same or similar soils.

The information in the tables, along with the soil maps, the soil descriptions, and other data provided in this survey can be used to make additional interpretations.

Some of the terms used in this soil survey have a special meaning in soil science and are defined in the Glossary.

Building Site Development

Table 10 shows the degree and kind of soil limitations that affect shallow excavations, dwellings with and without basements, small commercial buildings, local roads and streets, and lawns and landscaping. The limitations are considered *slight* if soil properties and site features are generally favorable for the indicated use and limitations are minor and easily overcome; *moderate* if soil properties or site features are not favorable for the indicated use and special planning, design, or maintenance is needed to overcome or minimize the limitations; and *severe* if soil properties or site features are so unfavorable or so difficult to overcome that special design, significant increases in construction costs, and possibly increased maintenance are required. Special feasibility studies may be required where the soil limitations are severe.

Shallow excavations are trenches or holes dug to a maximum depth of 5 or 6 feet for basements, graves, utility lines, open ditches, and other purposes. The ratings are based on soil properties, site features, and observed performance of the soils. The ease of digging, filling, and compacting is affected by the depth to bedrock, a cemented pan, or a very firm dense layer; stone content; soil texture; and slope. The time of the year that excavations can be made is affected by the depth to a seasonal high water table and the susceptibility of the soil to flooding. The resistance of the excavation walls or banks to sloughing or caving is affected by soil texture and the depth to the water table.

Dwellings and small commercial buildings are structures built on shallow foundations on undisturbed soil. The load limit is the same as that for single-family dwellings no higher than three stories. Ratings are made for small commercial buildings without basements, for dwellings with basements, and for dwellings without basements. The ratings are based on soil properties, site features, and observed performance of the soils. A high water table, flooding, shrink-swell potential, and organic layers can cause the movement of footings. A high water table, depth to bedrock or to a cemented pan, large stones, slope, and flooding affect the ease of excavation and construction. Landscaping and grading that require cuts and fills of more than 5 to 6 feet are not considered.

Local roads and streets have an all-weather surface and carry automobile and light truck traffic all year. They

have a subgrade of cut or fill soil material, a base of gravel, crushed rock, or stabilized soil material, and a flexible or rigid surface. Cuts and fills are generally limited to less than 6 feet. The ratings are based on soil properties, site features, and observed performance of the soils. Depth to bedrock or to a cemented pan, a high water table, flooding, large stones, and slope affect the ease of excavating and grading. Soil strength (as inferred from the engineering classification of the soil), shrink-swell potential, frost-action potential, and depth to a high water table affect the traffic-supporting capacity.

Lawns and landscaping require soils on which turf and ornamental trees and shrubs can be established and maintained. The ratings are based on soil properties, site features, and observed performance of the soils. Soil reaction, a high water table, depth to bedrock or to a cemented pan, the available water capacity in the upper 40 inches, and the content of salts, sodium, and sulfidic materials affect plant growth. Flooding, wetness, slope, stoniness, and the amount of sand, clay, or organic matter in the surface layer affect trafficability after vegetation is established.

Sanitary Facilities

Table 11 shows the degree and kind of soil limitations that affect septic tank absorption fields and sewage lagoons. The limitations are considered *slight* if soil properties and site features are generally favorable for the indicated use and limitations are minor and easily overcome; *moderate* if soil properties or site features are not favorable for the indicated use and special planning, design, or maintenance is needed to overcome or minimize the limitations; and *severe* if soil properties or site features are so unfavorable or so difficult to overcome that special design, significant increases in construction costs, and possibly increased maintenance are required.

Septic tank absorption fields are areas in which effluent from a septic tank is distributed into the soil through subsurface tiles or perforated pipe. Only that part of the soil between depths of 24 and 72 inches is evaluated. The ratings are based on soil properties, site features, and observed performance of the soils. Permeability, a high water table, depth to bedrock or to a cemented pan, and flooding affect absorption of the effluent. Large stones and bedrock or a cemented pan interfere with installation.

Unsatisfactory performance of septic tank absorption fields, including excessively slow absorption of effluent, surfacing of effluent, and hillside seepage, can affect public health. Ground water can be polluted if highly permeable sand and gravel or fractured bedrock is less than 4 feet below the base of the absorption field, if slope is excessive, or if the water table is near the surface. There must be unsaturated soil material beneath the absorption field to filter the effluent effectively. Many local ordinances require that this material be of a certain thickness.

Sewage lagoons are shallow ponds constructed to hold sewage while aerobic bacteria decompose the solid and liquid wastes. Lagoons should have a nearly level floor surrounded by cut slopes or embankments of compacted soil. Lagoons generally are designed to hold the sewage within a depth of 2 to 5 feet. Nearly impervious soil material for the lagoon floor and sides is required to minimize seepage and contamination of ground water.

Table 11 gives ratings for the natural soil that makes up the lagoon floor. The surface layer and, generally, 1 or 2 feet of soil material below the surface layer are excavated to provide material for the embankments. The ratings are based on soil properties, site features, and observed performance of the soils. Considered in the ratings are slope, permeability, a high water table, depth to bedrock or to a cemented pan, flooding, large stones, and content of organic matter.

Excessive seepage due to rapid permeability of the soil or a water table that is high enough to raise the level of sewage in the lagoon causes a lagoon to function unsatisfactorily. Pollution results if seepage is excessive or if floodwater overtops the lagoon. A high content of organic matter is detrimental to proper functioning of the lagoon because it inhibits aerobic activity. Slope, bedrock, and cemented pans can cause construction problems, and large stones can hinder compaction of the lagoon floor.

Construction Materials

Table 12 gives information about the soils as a source of roadfill, sand, gravel, and topsoil. The soils are rated *good, fair,* or *poor* as a source of roadfill and topsoil. They are rated as a *probable* or *improbable* source of sand and gravel. The ratings are based on soil properties and site features that affect the removal of the soil and its use as construction material. Normal compaction, minor processing, and other standard construction practices are assumed. Each soil is evaluated to a depth of 5 or 6 feet.

Roadfill is soil material that is excavated in one place and used in road embankments in another place. In this table, the soils are rated as a source of roadfill for low embankments, generally less than 6 feet high and less exacting in design than higher embankments.

The ratings are for the soil material below the surface layer to a depth of 5 or 6 feet. It is assumed that soil layers will be mixed during excavating and spreading. Many soils have layers of contrasting suitability within their profile. The table showing engineering index properties provides detailed information about each soil layer. This information can help determine the suitability of each layer for use as roadfill. The performance of soil

after it is stabilized with lime or cement is not considered in the ratings.

The ratings are based on soil properties, site features, and observed performance of the soils. The thickness of suitable material is a major consideration. The ease of excavation is affected by large stones, a high water table, and slope. How well the soil performs in place after it has been compacted and drained is determined by its strength (as inferred from the engineering classification of the soil) and shrink-swell potential.

Soils rated *good* contain significant amounts of sand or gravel or both. They have at least 5 feet of suitable material, low shrink-swell potential, few cobbles and stones, and slopes of 15 percent or less. Depth to the water table is more than 3 feet. Soils rated *fair* are more than 35 percent silt- and clay-sized particles and have a plasticity index of less than 10. They have moderate shrink-swell potential, slopes of 15 to 25 percent, or many stones. Depth to the water table is 1 to 3 feet. Soils rated *poor* have a plasticity index of more than 10, a high shrink-swell potential, many stones, or slopes of more than 25 percent. They are wet, and the depth to the water table is less than 1 foot. They may have layers of suitable material, but the material is less than 3 feet thick.

Sand and gravel are natural aggregates suitable for commercial use with a minimum of processing. Sand and gravel are used in many kinds of construction. Specifications for each use vary widely. In table 12, only the probability of finding material in suitable quantity is evaluated. The suitability of the material for specific purposes is not evaluated, nor are factors that affect excavation of the material.

The properties used to evaluate the soil as a source of sand or gravel are gradation of grain sizes (as indicated by the engineering classification of the soil), the thickness of suitable material, and the content of rock fragments. Kinds of rock, acidity, and stratification are given in the soil series descriptions. Gradation of grain sizes is given in the table on engineering index properties.

A soil rated as a probable source has a layer of clean sand or gravel or a layer of sand or gravel that is up to 12 percent silty fines. This material must be at least 3 feet thick and less than 50 percent, by weight, large stones. All other soils are rated as an improbable source. Coarse fragments of soft bedrock, such as shale and siltstone, are not considered to be sand and gravel.

Topsoil is used to cover an area so that vegetation can be established and maintained. The upper 40 inches of a soil is evaluated for use as topsoil. Also evaluated is the reclamation potential of the borrow area.

Plant growth is affected by toxic material and by such properties as soil reaction, available water capacity, and fertility. The ease of excavating, loading, and spreading is affected by rock fragments, slope, a water table, soil texture, and thickness of suitable material. Reclamation of the borrow area is affected by slope, a water table, rock fragments, bedrock, and toxic material.

Soils rated *good* have friable loamy material to a depth of at least 40 inches. They are free of stones and cobbles, have little or no gravel, and have slopes of less than 8 percent. They are low in content of soluble salts, are naturally fertile or respond well to fertilizer, and are not so wet that excavation is difficult.

Soils rated *fair* are sandy soils, loamy soils that have a relatively high content of clay, soils that have only 20 to 40 inches of suitable material, soils that have an appreciable amount of gravel, stones, or soluble salts, or soils that have slopes of 8 to 15 percent. The soils are not so wet that excavation is difficult.

Soils rated *poor* are very sandy or clayey, have less than 20 inches of suitable material, have a large amount of gravel, stones, or soluble salts, have slopes of more than 15 percent, or have a seasonal water table at or near the surface.

The surface layer of most soils is generally preferred for topsoil because of its organic matter content. Organic matter greatly increases the absorption and retention of moisture and nutrients for plant growth.

Water Management

Table 13 gives information on the soil properties and site features that affect water management. The degree and kind of soil limitations are given for pond reservoir areas; embankments, dikes, and levees; and aquifer-fed excavated ponds. The limitations are considered *slight* if soil properties and site features are generally favorable for the indicated use and limitations are minor and are easily overcome; *moderate* if soil properties or site features are not favorable for the indicated use and special planning, design, or maintenance is needed to overcome or minimize the limitations; and *severe* if soil properties or site features are so unfavorable or so difficult to overcome that special design, significant increase in construction costs, and possibly increased maintenance are required.

This table also gives for each soil the restrictive features that affect drainage, irrigation, terraces and diversions, and grassed waterways.

Pond reservoir areas hold water behind a dam or embankment. Soils best suited to this use have low seepage potential in the upper 60 inches. The seepage potential is determined by the permeability of the soil and the depth to fractured bedrock or other permeable material. Excessive slope can affect the storage capacity of the reservoir area.

Embankments, dikes, and levees are raised structures of soil material, generally less than 20 feet high, constructed to impound water or to protect land against overflow. In this table, the soils are rated as a source of material for embankment fill. The ratings apply to the soil material below the surface layer to a depth of about 5

feet. It is assumed that soil layers will be uniformly mixed and compacted during construction.

The ratings do not indicate the ability of the natural soil to support an embankment. Soil properties to a depth even greater than the height of the embankment can affect performance and safety of the embankment. Generally, deeper onsite investigation is needed to determine these properties.

Soil material in embankments must be resistant to seepage, piping, and erosion and have favorable compaction characteristics. Unfavorable features include less than 5 feet of suitable material and a high content of stones or boulders, organic matter, or salts or sodium. A high water table affects the amount of usable material. It also affects trafficability.

Aquifer-fed excavated ponds are pits or dugouts that extend to a ground-water aquifer or to a depth below a permanent water table. Excluded are ponds that are fed only by surface runoff and embankment ponds that impound water 3 feet or more above the original surface. Excavated ponds are affected by depth to a permanent water table, permeability of the aquifer, and quality of the water as inferred from the salinity of the soil. Depth to bedrock and the content of large stones affect the ease of excavation.

Drainage is the removal of excess surface and subsurface water from the soil. How easily and effectively the soil is drained depends on the depth to bedrock, to a cemented pan, or to other layers that affect the rate of water movement; permeability; depth to a high water table or depth of standing water if the soil is subject to ponding; slope; susceptibility to flooding; subsidence of organic layers; and potential frost action. Excavating and grading and the stability of ditchbanks are affected by depth to bedrock or to a cemented pan, large stones, slope, and the hazard of cutbanks caving. The productivity of the soil after drainage is adversely affected by extreme acidity or by toxic substances in the root zone, such as salts, sodium, or sulfur. Availability of drainage outlets is not considered in the ratings.

Irrigation is the controlled application of water to supplement rainfall and support plant growth. The design and management of an irrigation system are affected by depth to the water table, the need for drainage, flooding, available water capacity, intake rate, permeability, erosion hazard, and slope. The construction of a system is affected by large stones and depth to bedrock or to a cemented pan. The performance of a system is affected by the depth of the root zone, the amount of salts or sodium, and soil reaction.

Terraces and diversions are embankments or a combination of channels and ridges constructed across a slope to reduce erosion and conserve moisture by intercepting runoff. Slope, wetness, large stones, and depth to bedrock or to a cemented pan affect the construction of terraces and diversions. A restricted rooting depth, a severe hazard of wind or water erosion, an excessively coarse texture, and restricted permeability adversely affect maintenance.

Grassed waterways are natural or constructed channels, generally broad and shallow, that conduct surface water to outlets at a nonerosive velocity. Large stones, wetness, slope, and depth to bedrock or to a cemented pan affect the construction of grassed waterways. A hazard of wind erosion, low available water capacity, restricted rooting depth, toxic substances such as salts or sodium, and restricted permeability adversely affect the growth and maintenance of the grass after construction.

Soil Properties

Data relating to soil properties are collected during the course of the soil survey. The data and the estimates of soil and water features, listed in tables, are explained on the following pages.

Soil properties are determined by field examination of the soils and by laboratory index testing of some benchmark soils. Established standard procedures are followed. During the survey, many shallow borings are made and examined to identify and classify the soils and to delineate them on the soil maps. Samples are taken from some typical profiles and tested in the laboratory to determine grain-size distribution, plasticity, and compaction characteristics.

Estimates of soil properties are based on field examinations, on laboratory tests of samples from the survey area, and on laboratory tests of samples of similar soils in nearby areas. Tests verify field observations, verify properties that cannot be estimated accurately by field observation, and help characterize key soils.

The estimates of soil properties shown in the tables include the range of grain-size distribution and Atterberg limits, the engineering classifications, and the physical and chemical properties of the major layers of each soil. Pertinent soil and water features also are given.

Engineering Index Properties

Table 14 gives estimates of the engineering classification and of the range of index properties for the major layers of each soil in the survey area. Most soils have layers of contrasting properties within the upper 5 or 6 feet.

Depth to the upper and lower boundaries of each layer is indicated. The range in depth and information on other properties of each layer are given for each soil series under "Soil Series and Their Morphology."

Texture is given in the standard terms used by the U.S. Department of Agriculture. These terms are defined according to percentages of sand, silt, and clay in the fraction of the soil that is less than 2 millimeters in diameter. "Loam," for example, is soil that is 7 to 27 percent clay, 28 to 50 percent silt, and less than 52 percent sand. If the content of particles coarser than sand is as much as about 15 percent, an appropriate modifier is added, for example, "gravelly." Textural terms are defined in the Glossary.

Classification of the soils is determined according to the Unified soil classification system (*2*) and the system adopted by the American Association of State Highway and Transportation Officials (*1*).

The Unified system classifies soils according to properties that affect their use as construction material. Soils are classified according to grain-size distribution of the fraction less than 3 inches in diameter and according to plasticity index, liquid limit, and organic matter content. Sandy and gravelly soils are identified as GW, GP, GM, GC, SW, SP, SM, and SC; silty and clayey soils as ML, CL, OL, MH, CH, and OH; and highly organic soils as Pt. Soils exhibiting engineering properties of two groups can have a dual classification, for example, CL-ML.

The AASHTO system classifies soils according to those properties that affect roadway construction and maintenance. In this system, the fraction of a mineral soil that is less than 3 inches in diameter is classified in one of seven groups from A-1 through A-7 on the basis of grain-size distribution, liquid limit, and plasticity index. Soils in group A-1 are coarse grained and low in content of fines (silt and clay). At the other extreme, soils in group A-7 are fine grained. Highly organic soils are classified in group A-8 on the basis of visual inspection.

Rock fragments larger than 3 inches in diameter are indicated as a percentage of the total soil on a dry-weight basis. The percentages are estimates determined mainly by converting volume percentage in the field to weight percentage.

Percentage (of soil particles) passing designated sieves is the percentage of the soil fraction less than 3 inches in diameter based on an ovendry weight. The sieves, numbers 4, 10, 40, and 200 (USA Standard Series), have openings of 4.76, 2.00, 0.420, and 0.074 millimeters, respectively. Estimates are based on laboratory tests of soils sampled in the survey area and in nearby areas and on estimates made in the field.

Liquid limit and *plasticity index* (Atterberg limits) indicate the plasticity characteristics of a soil. The estimates are based on test data from the survey area or from nearby areas and on field examination.

The estimates of grain-size distribution, liquid limit, and plasticity index are generally rounded to the nearest 5 percent. Thus, if the ranges of gradation and Atterberg limits extend a marginal amount (1 or 2 percentage

points) across classification boundaries, the classification in the marginal zone is omitted in the table.

Physical and Chemical Properties

Table 15 shows estimates of some characteristics and features that affect soil behavior. These estimates are given for the major layers of each soil in the survey area. The estimates are based on field observations and on test data for these and similar soils.

Clay as a soil separate consists of mineral soil particles that are less than 0.002 millimeter in diameter. In this table, the estimated clay content of each major soil layer is given as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

The amount and kind of clay greatly affect the fertility and physical condition of the soil. They determine the ability of the soil to adsorb cations and to retain moisture. They influence shrink-swell potential, permeability, and plasticity, the ease of soil dispersion, and other soil properties. The amount and kind of clay in a soil also affect tillage and earthmoving operations.

Moist bulk density is the weight of soil (ovendry) per unit volume. Volume is measured when the soil is at field moisture capacity, that is, the moisture content at 1/3 bar moisture tension. Weight is determined after drying the soil at 105 degrees C. In this table, the estimated moist bulk density of each major soil horizon is expressed in grams per cubic centimeter of soil material that is less than 2 millimeters in diameter. Bulk density data are used to compute shrink-swell potential, available water capacity, total pore space, and other soil properties. The moist bulk density of a soil indicates the pore space available for water and roots. A bulk density of more than 1.6 can restrict water storage and root penetration. Moist bulk density is influenced by texture, kind of clay, content of organic matter, and soil structure.

Permeability refers to the ability of a soil to transmit water or air. The estimates indicate the rate of downward movement of water when the soil is saturated. They are based on soil characteristics observed in the field, particularly structure, porosity, and texture. Permeability is considered in the design of soil drainage systems, septic tank absorption fields, and construction where the rate of water movement under saturated conditions affects behavior.

Available water capacity refers to the quantity of water that the soil is capable of storing for use by plants. The capacity for water storage is given in inches of water per inch of soil for each major soil layer. The capacity varies, depending on soil properties that affect the retention of water and the depth of the root zone. The most important properties are the content of organic matter, soil texture, bulk density, and soil structure. Available water capacity is an important factor in the choice of plants or crops to be grown and in the design and management of irrigation systems. Available water capacity is not an estimate of the quantity of water actually available to plants at any given time.

Soil reaction is a measure of acidity or alkalinity and is expressed as a range in pH values. The range in pH of each major horizon is based on many field tests. For many soils, values have been verified by laboratory analyses. Soil reaction is important in selecting crops and other plants, in evaluating soil amendments for fertility and stabilization, and in determining the risk of corrosion.

Erosion factor K indicates the susceptibility of a soil to sheet and rill erosion by water. Factor K is one of six factors used in the Universal Soil Loss Equation (USLE) to predict the average annual rate of soil loss by sheet and rill erosion in tons per acre per year. The estimates are based primarily on percentage of silt, sand, and organic matter (up to 4 percent) and on soil structure and permeability. Values of K range from 0.05 to 0.69. The higher the value, the more susceptible the soil is to sheet and rill erosion by water.

Erosion factor T is an estimate of the maximum average annual rate of soil erosion by wind or water that can occur without affecting crop productivity over a sustained period. The rate is in tons per acre per year.

Organic matter is the plant and animal residue in the soil at various stages of decomposition. In table 15, the estimated content of organic matter is expressed as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

The content of organic matter of a soil can be maintained or increased by returning crop residue to the soil. Organic matter affects the available water capacity, infiltration rate, and tilth. It is a source of nitrogen and other nutrients for crops.

Soil and Water Features

Table 16 gives estimates of various soil and water features. The estimates are used in land use planning that involves engineering considerations.

Hydrologic soil groups are used to estimate runoff from precipitation. Soils not protected by vegetation are assigned to one of four groups. They are grouped according to the intake of water when the soils are thoroughly wet and receive precipitation from long-duration storms.

Some soils in table 16 are assigned to two hydrologic soil groups. Dual grouping is used for one of two reasons: (1) Some soils have a seasonal high water table but can be drained. In this instance the first letter applies to the drained condition of the soil and the second letter to the undrained condition. (2) In some soils that are less than 20 inches deep to bedrock, the first letter applies to areas where the bedrock is cracked and pervious and the second letter to areas where the bedrock is impervious or where exposed bedrock makes up more than 25 percent of the surface of the soil.

The four hydrologic soil groups are:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have high shrink-swell potential, soils that have a permanent high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

Flooding, the temporary covering of the soil surface by flowing water, is caused by overflowing streams, by runoff from adjacent slopes, or by inflow from high tides. Shallow water standing or flowing for short periods after rainfall or snowmelt is not considered flooding. Standing water in swamps and marshes or in a closed depression is considered ponding.

Table 16 gives the frequency and duration of flooding and the time of year when flooding is most likely to occur.

Frequency, duration, and probable period of occurrence are estimated. Frequency generally is expressed as *none, rare, occasional,* or *frequent. None* means that flooding is not probable. *Rare* means that flooding is unlikely but possible under unusual weather conditions (there is a near 0 to 5 percent chance of flooding in any year). *Occasional* means that flooding occurs infrequently under normal weather conditions (there is a 5 to 50 percent chance of flooding in any year). *Frequent* means that flooding occurs often under normal weather conditions (there is more than a 50 percent chance of flooding in any year). *Common* is used when classification as occasional or frequent does not affect interpretations. Duration is expressed as *very brief* (less than 2 days), *brief* (2 to 7 days), *long* (7 days to 1 month), and *very long* (more than 1 month). The time of year that floods are most likely to occur is expressed in months. November-May, for example, means that flooding can occur during the period November through May. About two-thirds to three-fourths of all flooding occurs during the stated period.

The information on flooding is based on evidence in the soil profile, namely, thin strata of gravel, sand, silt, or clay deposited by floodwater; irregular decrease in organic matter content with increasing depth; and absence of distinctive horizons, which are characteristic of soils that are not subject to flooding.

Also considered are local information about the extent and levels of flooding and the relation of each soil on the landscape to historic floods. Information on the extent of flooding based on soil data is less specific than that provided by detailed engineering surveys that delineate flood-prone areas at specific flood frequency levels.

High water table (seasonal) is the highest level of a saturated zone in the soil in most years. The depth to a seasonal high water table applies to undrained soils. The estimates are based mainly on the evidence of a saturated zone, namely, grayish colors or mottles in the soil. Indicated in table 16 are the depth to the seasonal high water table; the kind of water table, that is, *perched, artesian,* or *apparent;* and the months of the year that the water table commonly is highest. A water table that is seasonally high for less than 1 month is not indicated in table 16.

An *apparent* water table is a thick zone of free water in the soil. It is indicated by the level at which water stands in an uncased borehole after adequate time is allowed for adjustment in the surrounding soil. An *artesian* water table is under hydrostatic head, generally below an impermeable layer. When this layer is penetrated, the water level rises in an uncased borehole. A *perched* water table is water standing above an unsaturated zone. In places an upper, or perched, water table is separated from a lower one by a dry zone.

The two numbers in the "High water table—Depth" column indicate the normal range in depth to a saturated zone. Depth is given to the nearest half foot. The first numeral in the range indicates the highest water level. A plus sign preceding the range in depth indicates that the water table is above the surface of the soil. "More than 6.0" indicates that the water table is below a depth of 6 feet or that the water table exists for less than a month.

Depth to bedrock is given if bedrock is within a depth of 5 feet. The depth is based on many soil borings and on observations during soil mapping. The rock is specified as either soft or hard. If the rock is soft or fractured, excavations can be made with trenching machines, backhoes, or small rippers. If the rock is hard or massive, blasting or special equipment generally is needed for excavation.

Potential frost action is the likelihood of upward or lateral expansion of the soil caused by the formation of segregated ice lenses (frost heave) and the subsequent collapse of the soil and loss of strength on thawing. Frost action occurs when moisture moves into the freezing zone of the soil. Temperature, texture, density, permeability, content of organic matter, and depth to the water table are the most important factors considered in evaluating the potential for frost action. It is assumed

that the soil is not insulated by vegetation or snow and is not artificially drained. Silty and highly structured clayey soils that have a high water table in winter are the most susceptible to frost action. Well drained, very gravelly, or very sandy soils are the least susceptible. Frost heave and low soil strength during thawing cause damage mainly to pavements and other rigid structures.

Classification of the Soils

The system of soil classification used by the National Cooperative Soil Survey has six categories (*6*). Beginning with the broadest, these categories are the order, suborder, great group, subgroup, family, and series. Classification is based on soil properties observed in the field or inferred from those observations or from laboratory measurements. Table 17 shows the classification of the soils in the survey area. The categories are defined in the following paragraphs.

ORDER. Ten soil orders are recognized. The differences among orders reflect the dominant soil-forming processes and the degree of soil formation. Each order is identified by a word ending in *sol*. An example is Entisol.

SUBORDER. Each order is divided into suborders primarily on the basis of properties that influence soil genesis and are important to plant growth or properties that reflect the most important variables within the orders. The last syllable in the name of a suborder indicates the order. An example is Aquent (*Aqu*, meaning water, plus *ent*, from Entisol).

GREAT GROUP. Each suborder is divided into great groups on the basis of close similarities in kind, arrangement, and degree of development of pedogenic horizons; soil moisture and temperature regimes; and base status. Each great group is identified by the name of a suborder and by a prefix that indicates a property of the soil. An example is Haplaquents (*Hapl*, meaning minimal horizonation, plus *aquent*, the suborder of the Entisols that have an aquic moisture regime).

SUBGROUP. Each great group has a typic subgroup. Other subgroups are intergrades or extragrades. The typic is the central concept of the great group; it is not necessarily the most extensive. Intergrades are transitions to other orders, suborders, or great groups. Extragrades have some properties that are not representative of the great group but do not indicate transitions to any other known kind of soil. Each subgroup is identified by one or more adjectives preceding the name of the great group. The adjective *Typic* identifies the subgroup that typifies the great group. An example is Typic Haplaquents.

FAMILY. Families are established within a subgroup on the basis of physical and chemical properties and other characteristics that affect management. Mostly the properties are those of horizons below plow depth where there is much biological activity. Among the properties and characteristics considered are particle-size class, mineral content, temperature regime, depth of the root zone, consistence, moisture equivalent, slope, and permanent cracks. A family name consists of the name of a subgroup preceded by terms that indicate soil properties. An example is fine-loamy, mixed, nonacid, mesic Typic Haplaquents.

SERIES. The series consists of soils that have similar horizons in their profile. The horizons are similar in color, texture, structure, reaction, consistence, mineral and chemical composition, and arrangement in the profile. The texture of the surface layer or of the substratum can differ within a series.

Soil Series and Their Morphology

In this section, each soil series recognized in the survey area is described. The descriptions are arranged in alphabetic order.

Characteristics of the soil and the material in which it formed are identified for each series. The soil is compared with similar soils and with nearby soils of other series. A pedon, a small three-dimensional area of soil, that is typical of the series in the survey area is described. The detailed description of each soil horizon follows standards in the *Soil Survey Manual* (*6*). Many of the technical terms used in the descriptions are defined in *Soil Taxonomy* (*7*). Unless otherwise stated, colors in the descriptions are for moist soil. Following the pedon description is the range of important characteristics of the soils in the series.

The map units of each soil series are described in the section "Detailed Soil Map Units."

Adams Series

The Adams series consists of very deep, excessively drained soils that formed in sandy, glacial outwash deposits. These soils are on glacial outwash plains and on stream terraces. Slopes range from 0 to 50 percent.

Adams soils formed in the same kind of parent material and are near moderately well drained Croghan soils, poorly drained and somewhat poorly drained Naumburg soils, and very poorly drained Searsport soils. They are also near Colton and Merrimac soils. They are mainly sandy throughout, but Colton and Merrimac soils have sand and gravel in the substratum.

Typical pedon of Adams loamy sand, 8 to 15 percent slopes, in the town of Fitzwilliam, about 2.2 miles southeast of Laurel Lake and 500 feet north of Massachusetts state line, in a stand of white pine:

Ap—0 to 6 inches; very dark grayish brown (10YR 3/2) loamy sand; weak fine granular structure; very friable; common fine and few medium roots; 2 percent fine gravel; strongly acid; clear smooth boundary.

E—6 to 8 inches; grayish brown (10YR 5/2) sand; single grain; loose; common fine and few medium roots; 2 percent fine gravel; strongly acid; broken boundary.

Bh—8 to 9 inches; very dusky red (2.5YR 2/2) sand; single grain; loose; few fine and medium roots; 2 percent fine gravel; very strongly acid; broken boundary.

Bs—9 to 13 inches; dark reddish brown (2.5YR 3/4) sand; single grain; loose; few fine roots; 2 percent fine gravel; strongly acid; gradual wavy boundary.

BC—13 to 19 inches; yellowish brown (10YR 5/6) sand; single grain; loose; 3 percent fine gravel; strongly acid; gradual wavy boundary.

C1—19 to 28 inches; brownish yellow (10YR 6/6) sand; single grain; loose; 5 percent fine gravel; strongly acid; gradual wavy boundary.

C2—28 to 60 inches; light yellowish brown (2.5Y 6/4) coarse sand; single grain; loose; 12 percent fine gravel; common medium prominent yellowish red (5YR 5/8) bands; strongly acid.

The solum ranges from 16 to 30 inches in thickness. Rock fragments, dominantly gravel, range from 0 to 5 percent, by volume, above a depth of 20 inches and from 0 to 15 percent below that depth. Reaction is strongly acid or moderately acid throughout.

The A horizon has hue of 10YR, value of 3 to 6, and chroma of 2. Its texture is loamy fine sand, loamy sand, or sand.

The E horizon has hue of 7.5YR or 10YR, value of 5 to 7, and chroma of 1 or 2. Its texture ranges from loamy fine sand to sand.

The Bh, or Bhs, horizon has hue of 2.5YR or 5YR, value of 2, and chroma of 1 or 2. The Bs horizon has hue of 2.5YR to 7.5YR, value of 3 to 5, and chroma of 2 to 6. In the lower part the B horizon has hue of 7.5YR to 2.5Y, value of 4 or 5, and chroma of 2 to 6. Texture of the B horizon ranges from loamy fine sand to sand.

The C horizon is sand or coarse sand.

Agawam Series

The Agawam series consists of very deep, well drained soils that formed in loamy material over water-laid sands. These soils are on stream terraces and glacial outwash plains. Slopes range from 0 to 15 percent.

Agawam soils formed in the same kind of parent material and are near moderately well drained Ninigret soils. They are also near Unadilla, Haven, Hoosic, and Windsor soils. They have more fine sand in the substratum than Unadilla soils. They have less gravel than Haven and Hoosic soils. They have a loamy texture in the surface layer and subsoil, and Windsor soils have a sandy texture throughout.

Typical pedon of Agawam very fine sandy loam, 3 to 8 percent slopes, in the town of Walpole, approximately 660 feet east of NH 12 and 3,300 feet east of the Connecticut River and 1.9 miles north of the village of Walpole, in a cornfield:

Ap—0 to 12 inches; dark brown (10YR 3/3) very fine sandy loam, light yellowish brown (10YR 6/4) dry; moderate fine granular structure; friable; common fine and few medium roots; slightly acid; abrupt smooth boundary.

Bw1—12 to 20 inches; olive brown (2.5Y 4/4) very fine sandy loam; weak fine granular structure; very friable; few fine roots; slightly acid; clear smooth boundary.

Bw2—20 to 25 inches; light yellowish brown (2.5Y 6/4) fine sandy loam; weak fine granular structure; very friable; few fine roots; slightly acid; clear smooth boundary.

2C1—25 to 52 inches; variegated, light yellowish brown (2.5Y 6/4) and light brownish gray (2.5Y 6/2) fine sand; single grain; loose; few fine roots; slightly acid; gradual wavy boundary.

2C2—52 to 60 inches; variegated light yellowish brown (2.5Y 6/4) and light brownish gray (2.5Y 6/2) sand; single grain; loose; slightly acid.

The solum ranges from 15 to 35 inches in thickness. Rock fragments, dominantly gravel, range from 0 to 10 percent in the solum and from 0 to 15 percent in the 2C horizon. In unlimed areas reaction ranges from strongly acid to slightly acid throughout.

The Ap horizon has hue of 10YR to 2.5Y, value of 3 or 4, and chroma of 2 to 4. Its texture is very fine sandy loam or fine sandy loam.

The B horizon has hue of 7.5YR to 2.5Y, value of 4 to 7, and chroma of 4 to 6. Its texture is very fine sandy loam or fine sandy loam.

The 2C horizon has hue of 10YR to 5Y, value of 4 to 7, and chroma of 2 to 4. Its texture generally is fine sand or sand, but some pedons have stratifications or layers of loamy fine sand to coarse sand and their gravelly analog.

Becket Series

The Becket series consists of very deep, well drained soils that formed in loamy material underlain by compact glacial till. These soils are on rounded, smooth-sided,

oval hills of glaciated uplands. Slopes range from 3 to 25 percent.

Becket soils formed in the same kind of parent material and are near moderately well drained Skerry soils. Becket soils are also near Marlow, Peru, Pillsbury, Berkshire, and Monadnock soils. They have more sand in the substratum than Marlow soils. Peru soils are moderately well drained, and Pillsbury soils are poorly drained or somewhat poorly drained. Becket soils have a compact substratum, but Berkshire and Monadnock soils are friable in the substratum.

Typical pedon of Becket fine sandy loam, in an area of Becket fine sandy loam, 8 to 15 percent slopes, very stony, in the town of Rindge, 2,200 feet south of NH 119, 3,000 feet southwest of intersection of NH 119 and U.S. 202, in a logging road cut:

Oi—2 inches to 0; slightly decomposed leaf litter and pine needles.

E—0 to 2 inches; pinkish gray (7.5YR 6/2) fine sandy loam; weak fine granular structure; very friable; many medium and fine roots; 5 percent gravel; very strongly acid; abrupt wavy boundary.

Bh—2 to 3 inches; dark reddish brown (5YR 3/2) fine sandy loam; weak fine granular structure; very friable; many medium and fine roots; 10 percent gravel; very strongly acid; abrupt wavy boundary.

Bs1—3 to 5 inches; reddish brown (5YR 4/4) fine sandy loam; weak fine granular structure; very friable; many medium and fine roots; 10 percent gravel; very strongly acid; abrupt irregular boundary.

Bs2—5 to 12 inches; strong brown (7.5YR 5/6) fine sandy loam; weak fine granular structure; very friable; common medium and fine roots; 10 percent gravel; very strongly acid; clear irregular boundary.

Bw—12 to 22 inches; yellowish brown (10YR 5/6) gravelly sandy loam; weak medium granular structure; friable; common fine roots; 15 percent gravel; very strongly acid; clear wavy boundary.

BC—22 to 31 inches; light olive brown (2.5Y 5/4) gravelly sandy loam; moderate medium granular structure; friable; few fine roots; 20 percent gravel, 5 percent cobbles; strongly acid; abrupt smooth boundary.

Cd—31 to 60 inches; olive (5Y 5/3) gravelly sandy loam and olive yellow (2.5Y 6/6) sand, composite texture of gravelly loamy sand; few medium prominent strong brown (7.5YR 5/8) mottles; massive; firm and brittle; 20 percent gravel, 10 percent cobbles; horizon consists of firm gravelly sandy loam and horizontally oriented lenses and pockets of loose sand; rock fragments coated with olive yellow (2.5Y 6/6) sand; strongly acid.

The solum ranges from 18 to 36 inches in thickness. Rock fragments range from 5 to 30 percent in the solum and from 5 to 40 percent in the substratum. Reaction ranges from extremely acid to moderately acid in the solum and from very strongly acid to slightly acid in the substratum.

The A horizon has hue of 5YR to 10YR, value of 2 to 4, and chroma of 1 to 3. Some pedons have an Ap horizon that has hue of 7.5YR or 10YR, value of 3 or 4, and chroma of 2 to 4. Its texture is dominantly fine sandy loam, but ranges to sandy loam, loam, and their gravelly analog.

The E horizon has hue of 5YR to 2.5Y, value of 4 to 7, and chroma of 1 or 2. Its texture is fine sandy loam, sandy loam, loamy sand, or their gravelly analog.

The Bh horizon has hue of 2.5YR to 7.5YR, value of 2 or 3, and chroma of 1 to 3. The Bs horizon has hue of 2.5YR to 7.5YR, and value and chroma of 3 to 8. The Bw and BC horizons have hue of 10YR to 5Y, value of 4 to 6, and chroma of 3 to 6. Texture of the B horizon is dominantly fine sandy loam, but some pedons have sandy loam, gravelly fine sandy loam, or gravelly sandy loam. Some pedons in the lower part of the B horizon have a thin layer of loamy sand, loamy fine sand, or their gravelly analog.

The Cd horizon has hue of 10YR to 5Y, value of 4 to 7, and chroma of 2 to 6. Its texture is fine sandy loam, sandy loam, loamy sand, loamy fine sand, or their gravelly or very gravelly analog. Its consistence is firm or very firm.

Berkshire Series

The Berkshire series consists of very deep, well drained soils that formed in loamy glacial till. These soils are on upland hills, plains, and mountain side slopes. Slopes range from 3 to 50 percent.

Berkshire soils formed in the same kind of parent material and are near moderately well drained Sunapee soils and poorly drained Lyme soils. They are also near Monadnock, Becket, Marlow, Tunbridge, and Lyman soils. These soils are more permeable in the substratum than Becket and Marlow soils. They have more silt in the substratum than Monadnock soils. Unlike Berkshire soils, Lyman soils are shallow to bedrock and Tunbridge soils are moderately deep to bedrock.

Typical pedon of Berkshire fine sandy loam, in an area of Berkshire fine sandy loam, 15 to 25 percent slopes, very stony, in the town of Stoddard, 0.7 mile east of the village of Stoddard, 1,300 feet north of Island Pond on north side of Barrett Pond Road, in a small borrow pit:

A—0 to 3 inches; very dark grayish brown (10YR 3/2) fine sandy loam; weak very fine granular structure; friable; many fine and medium roots; 8 percent gravel; very strongly acid; abrupt smooth boundary.

Bs1—3 to 8 inches; yellowish red (5YR 4/6) fine sandy loam; weak very fine granular structure; friable; common fine and medium roots; 10 percent gravel; very strongly acid; clear smooth boundary.

Bs2—8 to 16 inches; dark brown (7.5YR 4/4) fine sandy loam; weak fine subangular blocky structure; friable; common fine and medium roots; 12 percent gravel; some firm, slightly cemented nodules; very strongly acid; gradual smooth boundary.

Bw1—16 to 23 inches; yellowish brown (10YR 5/6) fine sandy loam; weak fine granular structure; friable; common fine and medium roots; 12 percent gravel; very strongly acid; gradual smooth boundary.

Bw2—23 to 30 inches; light olive brown (2.5Y 5/6) gravelly fine sandy loam; weak fine subangular blocky structure; friable; few fine and medium roots; 10 percent gravel, 10 percent cobbles; very strongly acid; gradual smooth boundary.

BC—30 to 35 inches; light olive brown (2.5Y 5/4) gravelly fine sandy loam; massive; friable; few fine and medium roots; 15 percent gravel, 10 percent cobbles, strongly acid; gradual smooth boundary.

C—35 to 60 inches; grayish brown (2.5Y 5/2) gravelly sandy loam; massive; friable; 15 percent gravel, 10 percent cobbles; strongly acid.

The solum ranges from 16 to 36 inches in thickness. Rock fragments range from 5 to 20 percent, by volume, in the surface layer, 10 to 30 percent in the subsoil, and 10 to 35 percent in the substratum. Reaction ranges from extremely acid to moderately acid.

The A horizon has hue of 7.5YR or 10YR, value of 2 or 3, and chroma of 1 or 2. The Ap horizon has hue of 10YR, value of 2 to 4, and chroma of 2 to 4. Texture of either horizon is fine sandy loam or sandy loam, or their gravelly analog.

The Bs horizon has hue of 5YR or 7.5YR, value of 3 to 5, and chroma of 2 to 6. The B horizon in the lower part has hue of 10YR to 5Y, value of 3 to 6, and chroma of 2 to 6. Texture of the horizon is dominantly fine sandy loam, but in some pedons is sandy loam, gravelly fine sandy loam, or gravelly sandy loam.

The C horizon has hue of 10YR to 5Y, value of 3 to 5, and chroma of 2 to 4. Its texture is sandy loam or gravelly sandy loam.

Bernardston Series

The Bernardston series consists of very deep, well drained soils that formed in loamy material underlain by compact glacial till. These soils are on rounded and smooth-sided, oval hills of glaciated uplands in the western part of the county. Slopes range from 3 to 50 percent.

Bernardston soils formed in the same kind of parent material and are near moderately well drained Pittstown soils and poorly drained Stissing soils. They are also near Dutchess, Cardigan, and Kearsarge soils. They have a dense, compacted substratum, and Dutchess soils have a friable substratum. Unlike Bernardston soils, Cardigan soils are moderately deep to bedrock and Kearsarge soils are shallow to bedrock.

Typical pedon of Bernardston silt loam, 8 to 15 percent slopes, in the town of Alstead, 3,000 feet west of NH 12A and 2,180 feet north of the Surry townline, in an open field:

A—0 to 2 inches; dark brown (10YR 4/3) silt loam; weak fine granular structure; very friable; many medium and fine roots; 5 percent gravel; strongly acid; abrupt wavy boundary.

Bw1—2 to 7 inches; dark yellowish brown (10YR 4/4) silt loam; weak medium granular structure; friable; common fine roots; 10 percent gravel; strongly acid; abrupt wavy boundary.

Bw2—7 to 13 inches; light olive brown (2.5Y 5/4) silt loam; weak medium subangular blocky structure; friable; few fine roots; 10 percent gravel; strongly acid; clear wavy boundary.

BC—13 to 25 inches; olive brown (2.5Y 4/4) channery silt loam; weak medium subangular blocky structure; slightly firm; few fine roots; 5 percent gravel, 10 percent channers, moderately acid; clear wavy boundary.

Cd—25 to 60 inches; dark grayish brown (2.5Y 4/2) channery very fine sandy loam; moderate thick platy structure; very firm, brittle; 10 percent gravel, 15 percent channers; strongly acid.

The solum ranges from 15 to 30 inches in thickness. Rock fragments range from 5 to 20 percent in the surface layer and from 10 to 30 percent in the subsoil and substratum. Reaction is strongly acid or moderately acid throughout.

The A, or Ap, horizon has hue of 10YR, value of 3 or 4, and chroma of 2 or 3. Its texture is silt loam, loam, or their gravelly or channery analog.

The B horizon in the upper part has hue of 10YR, value of 4 or 5, and chroma of 2 to 6. In the lower part it has hue of 10YR or 2.5Y, value of 4 or 5, and chroma of 2 to 6. Its texture is loam, silt loam, or their gravelly or channery analog.

The Cd horizon has hue of 2.5Y or 5Y, value of 4 or 5, and chroma of 2 or 3. Its texture is loam, silt loam, very fine sandy loam, or their gravelly or channery analog. Its consistence is firm or very firm.

Borohemists

Borohemists are very poorly drained soils that consist of moderately decomposed organic material. These soils formed in organic deposits more than 16 inches thick. They are in depressions on glacial outwash plains and glacial till uplands and along the margins of lakes, ponds, and streams. Slopes range from 0 to 2 percent.

Borohemists are near very poorly drained Greenwood, Chocorua, Ossipee, and Searsport soils and bodies of water. Borohemists and Greenwood, Chocorua, and Ossipee soils all formed in organic material. Borohemists

have a minimum of 16 inches of organic material, but Searsport soils have organic material less than 16 inches thick over mineral material.

Borohemists differ greatly from place to place in composition and thickness; consequently, a typical pedon cannot be described.

The organic material in Borohemists ranges in thickness from 16 inches to more than 51 inches. Reaction throughout ranges from extremely acid to moderately acid. The fibers are mainly herbaceous, but in some pedons woody fragments make up as much as 30 percent of the volume.

The surface tier ranges from reddish brown fibric material to black sapric material. The subsurface tier ranges from very dark grayish brown to dark reddish brown, or it is black. It is generally hemic material, but in some pedons it has thin layers of sapric or fibric material.

Some pedons have a bottom tier that is dominantly hemic material. Other pedons have a 2C horizon that has mineral soil material that formed in strongly gleyed glacial till, glacial outwash, lacustrine deposits, or alluvial deposits.

Caesar Series

The Caesar series consists of very deep, excessively drained soils that formed in deposits of sand, coarse sand, and very coarse sand. These soils are on glacial outwash plains and kames. Slopes range from 0 to 50 percent.

Caesar soils formed in parent material similar to that of and are near Windsor, Croghan, Naumburg, and Searsport soils. Croghan soils are moderately well drained, Naumburg soils are poorly drained or somewhat poorly drained, and Searsport soils are very poorly drained. Caesar soils have coarse sand and very coarse sand in the substratum, and Windsor soils have sand and fine sand in the substratum.

Typical pedon of Caesar loamy sand, 0 to 3 percent slopes, in the town of Swanzey, 0.7 mile east of NH 10 and 1,600 feet north of Ashuelot River, in a stand of white pine:

Oi—1 inch to 0; mat of pine needles.

Ap—0 to 5 inches; very dark grayish brown (10YR 3/2) loamy sand; weak fine granular structure; very friable; many fine and common medium roots; 2 percent fine pebbles; strongly acid; abrupt smooth boundary.

Bw1—5 to 13 inches; strong brown (7.5YR 5/6) loamy sand; weak fine granular structure; very friable; common fine and medium roots; 2 percent fine pebbles; strongly acid; clear wavy boundary.

Bw2—13 to 18 inches; yellowish brown (10YR 5/6) sand; single grain; few fine and medium roots; 5 percent fine pebbles; moderately acid; abrupt smooth boundary.

C—18 to 60 inches; variegated, pale olive (5Y 6/3) and light brownish gray (2.5Y 6/2) coarse sand; single grain; loose; 8 percent fine pebbles; slightly acid.

The solum ranges from 15 to 30 inches in thickness. Rock fragments, generally fine gravel, range from 0 to 20 percent in the solum and from 0 to 30 percent in the C horizon. Reaction ranges from extremely acid to moderately acid in the solum and from very strongly acid to slightly acid in the substratum.

The A horizon has hue of 10YR, value of 3 or 4, and chroma of 2 or 3. Its texture is loamy sand, loamy fine sand, or sand.

The B horizon has hue of 7.5YR or 10YR, value of 4 to 6, and chroma of 4 to 8. Its texture is loamy sand, sand, coarse sand, or their gravelly analog.

The C horizon has hue 10YR to 5Y, value of 5 to 7, and chroma of 2 to 6. Its texture is coarse sand, very coarse sand, or their gravelly analog.

Cardigan Series

The Cardigan series consists of moderately deep, well drained soils that formed in loamy glacial till. These soils are underlain by folded phyllite and schist bedrock. They are on upland hills. Slopes range from 3 to 50 percent.

Cardigan soils formed in the same kind of parent material as and are near shallow Kearsarge soils and very deep Dutchess soils.

Typical pedon of Cardigan silt loam, in an area of Cardigan-Kearsarge complex, 3 to 8 percent slopes, in the town of Walpole, 1.3 miles north of the Westmoreland townline and 0.8 miles east of NH 12, in a hayfield:

Ap—0 to 7 inches; dark brown (10YR 4/3) silt loam; weak very fine granular structure; very friable; many fine roots; 1 percent gravel, 5 percent channers; strongly acid; abrupt smooth boundary.

Bw1—7 to 15 inches; light olive brown (2.5Y 5/6) very fine sandy loam; weak fine granular structure; very friable; many fine roots; 3 percent gravel, 7 percent channers; moderately acid; gradual wavy boundary.

Bw2—15 to 22 inches; light olive brown (2.5Y 5/4) very fine sandy loam; weak medium subangular blocky structure; very friable; common fine roots; 7 percent gravel, 7 percent channers; moderately acid; gradual wavy boundary.

C—22 to 31 inches; olive brown (2.5Y 4/4) channery very fine sandy loam; weak medium granular structure; slightly firm; 10 percent channers, 10 percent gravel; strongly acid; abrupt irregular boundary.

R—31 inches; phyllite bedrock.

The solum ranges from 20 to 36 inches in thickness. Depth to bedrock ranges from 20 to 40 inches. Rock

fragments range from 5 to 30 percent in the solum and 10 to 35 percent in the C horizon. Reaction is strongly acid or moderately acid, except where the soils have been limed.

The A horizon has hue of 10YR, value of 3 or 4, and chroma of 1 to 3. The Ap horizon has hue of 10YR, value of 3 or 4, and chroma of 2 to 4. Texture of the A or Ap horizon is loam or silt loam or their gravelly or channery analog.

The B horizon has hue of 7.5YR to 2.5Y, value of 4 or 5, and chroma of 4 to 6. Its texture is loam, silt loam, very fine sandy loam, or their gravelly or channery analog.

The C horizon has hue of 10YR to 5Y, value of 3 to 5, and chroma of 2 to 4. Its texture is silt loam, very fine sandy loam, fine sandy loam, or their gravelly or channery analog. Some pedons have a layer of soft, weathered bedrock 1 to 4 inches thick overlying hard, unweathered bedrock.

Chocorua Series

The Chocorua series consists of very deep, very poorly drained soils that formed in 16 to 51 inches of moderately decomposed organic material over sandy material. These soils are in depressions on glacial outwash plains, terraces, glacial till uplands, and flood plains. Slopes range from 0 to 2 percent.

Chocorua soils formed in the same kind of parent material as and are near Greenwood and Ossipee soils and Borohemists. Chocorua soils overlie sandy material, and Ossipee soils overlie loamy material. Chocorua soils have 16 to 51 inches of organic material, and Greenwood soils have more than 51 inches of organic material. Chocorua soils are not as variable in composition and in depth to underlying mineral material as Borohemists. Chocorua soils are also near Caesar, Windsor, Croghan, Naumburg, and Searsport soils. Chocorua soils formed in organic material over sandy material, and Caesar, Windsor, Croghan, Naumburg, and Searsport soils formed in sandy material.

Typical pedon of Chocorua mucky peat, in the town of Richmond, 300 feet northwest of Mud Pond and 4,000 feet north of NH 119, in a wooded area:

Oe1—0 to 14 inches; dark reddish brown (5YR 2/2) broken face and rubbed mucky peat; about 40 to 45 percent fibers, 20 to 30 percent rubbed; granular structure; very strongly acid; 25 percent silt mineral content; clear smooth boundary.

Oe2—14 to 20 inches; dark reddish brown (5YR 2/2) broken face and rubbed mucky peat; about 40 to 45 percent fibers, 20 to 30 percent rubbed; massive; very strongly acid; 25 percent silt mineral content; abrupt smooth boundary.

Oe3—20 to 34 inches; dark reddish brown (5YR 3/2) broken face and dark reddish brown (5YR 2/2) rubbed mucky peat; about 65 percent fibers, 35 percent rubbed; massive; very strongly acid; abrupt smooth boundary.

2C—34 to 60 inches; gray (10YR 5/1) loamy sand; single grain; loose; strongly acid.

The organic layer ranges from 16 to 51 inches in thickness. The organic material is comprised of herbaceous and woody materials. Slightly decomposed woody fragments comprise 5 to 15 percent, by volume, of the organic material. The Oe layers have hue of 2.5YR to 7.5YR and value and chroma of 1 to 4. Some pedons have Oi layers that have colors similar to those of Oe layers.

The surface tier is comprised of hemic or fibric material with an unrubbed fiber content that ranges from 40 to 60 percent of the volume. Rubbed fiber content ranges from 15 to 30 percent.

The subsurface tier has an unrubbed fiber content that ranges from 40 to 75 percent, by volume, and a rubbed fiber content that ranges from 15 to 35 percent.

The 2C horizon has hue of 10YR to 5Y, value of 4 to 6, and chroma of 1 to 4. Its texture includes sand, loamy fine sand, and their gravelly analog.

Colton Series

The Colton series consists of very deep, excessively drained soils that formed in water-deposited sands and gravel. These soils are on glacial outwash plains, terraces, kames, and eskers. Slopes range from 0 to 50 percent.

Colton soils formed in the same kind of parent material as and are near moderately well drained Sheepscot soils, and poorly drained or somewhat poorly drained Moosilauke soils. Colton soils are also near Adams, Croghan, Naumburg, Searsport, and Merrimac soils. They have more gravel than Adams soils. Croghan soils are moderately well drained, Naumburg soils are poorly drained to somewhat poorly drained, and Searsport soils are very poorly drained. Colton soils have a sandy B horizon, but Merrimac soils have a loamy B horizon.

Typical pedon of Colton loamy fine sand, 8 to 15 percent slopes, in the town of Rindge, 1,300 feet north of Massachusetts state line and 2,600 feet northwest of Lake Monomonac on the north side of gravel pit, on a power line right-of-way:

Oi—2 inches to 0; slightly decomposed organic mat.

A—0 to 2 inches; black (7.5YR 2/0) loamy fine sand; weak fine granular structure; very friable; many fine roots; 10 percent gravel; very strongly acid; abrupt wavy boundary.

Bs1—2 to 5 inches; dark brown (7.5YR 4/4) loamy fine sand; weak fine granular structure; very friable; many fine roots; 10 percent gravel; very strongly acid; abrupt wavy boundary.

Bs2—5 to 9 inches; strong brown (7.5YR 5/6) gravelly loamy fine sand; single grain; loose; common fine roots; 15 percent gravel, 15 percent cobbles; strongly acid; clear wavy boundary.

Bw—9 to 18 inches; yellowish brown (10YR 5/6) very cobbly loamy sand; single grain; loose; common fine roots; 20 percent gravel, 25 percent cobbles; strongly acid; clear wavy boundary.

C1—18 to 45 inches; yellowish brown (10YR 5/6) extremely gravelly sand; single grain; loose; few fine roots; 40 percent gravel, 25 percent cobbles; strongly acid; abrupt wavy boundary.

C2—45 to 60 inches; olive brown (2.5Y 4/4) extremely gravelly coarse sand; single grain; loose; 40 percent gravel, 25 percent cobbles; strongly acid.

The solum ranges from 18 to 30 inches in thickness. Rock fragments range from 10 to 50 percent in the solum and from 35 to 70 percent in the substratum. Reaction is extremely acid or very strongly acid in the surface layer, strongly acid or very strongly acid in the subsoil, and strongly acid or moderately acid in the substratum.

The A horizon is neutral or has hue of 7.5YR or 10YR, value of 2 to 4, and chroma of 0 to 2. Some pedons have an Ap horizon that has hue of 7.5YR or 10YR, value of 2 to 4, and chroma of 2 or 3. Texture of the A, or Ap, horizon ranges from loamy coarse sand to fine sandy loam and their gravelly or very gravelly analog.

The B horizon in the upper part has hue of 5YR or 7.5YR, value of 3 to 6, and chroma of 3 to 8. In the lower part it has hue of 7.5YR or 10YR, value of 3 to 6, and chroma of 3 to 8. Texture of the B horizon ranges from coarse sand to loamy fine sand and their gravelly, very gravelly, or cobbly analog.

The C horizon has hue of 10YR to 2.5Y, value of 4 or 5, and chroma of 4 to 6. Its texture ranges from fine sand to coarse sand and their gravelly, very gravelly, extremely gravelly, or cobbly analog.

Croghan Series

The Croghan series consists of very deep, moderately well drained soils that formed in water-deposited sands. These soils are in slight depressions or along drainageways on glacial outwash plains. Slopes range from 0 to 5 percent.

Croghan soils formed in the same kind of parent material as and are near excessively drained Adams soils, somewhat poorly drained or poorly drained Naumburg soils, and very poorly drained Searsport soils. Croghan soils are also near Colton, Merrimac, Sheepscot, Windsor, Caesar, and Moosilauke soils. Unlike Croghan soils, Merrimac soils are somewhat excessively drained and Windsor and Caesar soils are excessively drained. Unlike Croghan soils, Moosilake soils are poorly drained or somewhat poorly drained. Croghan soils are dominantly sandy, and Sheepscot soils have sand and gravel.

Typical pedon of Croghan loamy fine sand, 0 to 5 percent slopes, in the town of Stoddard, 150 feet east of Center Pond, in a stand of white pine:

Oi—1 inch to 0; pine needles and hardwood leaves.

Oa—0 to 5 inches; very dark brown (10YR 2/2) well decomposed organic mat.

E—5 to 7 inches; gray (10YR 5/1) loamy fine sand; weak fine granular structure; very friable; common fine and medium roots; very strongly acid; abrupt smooth boundary.

Bhs—7 to 9 inches; 70 percent dark reddish brown (5YR 2/2) and 30 percent weak red (2.5YR 4/2) loamy fine sand; weak fine and medium granular structure; friable; common fine and medium roots; very strongly acid; abrupt smooth boundary.

Bs1—9 to 12 inches; 80 percent dark brown (7.5YR 4/4) and 20 percent dark red (2.5YR 3/6) loamy fine sand; weak fine granular structure; very friable; common fine and medium roots; 10 percent fine gravel; strongly acid; clear smooth boundary.

Bs2—12 to 20 inches; dark yellowish brown (10YR 4/4) gravelly sand; few fine distinct yellowish brown (10YR 5/6) mottles; single grain; loose; common fine and medium roots; 15 percent fine gravel; strongly acid; clear smooth boundary.

BC—20 to 25 inches; light olive brown (2.5Y 5/4) sand, few fine distinct yellowish brown (10YR 5/6) and light brownish gray (10YR 6/2), and few fine prominent strong brown (7.5YR 5/6) mottles; single grain; loose; few fine roots; 5 percent fine gravel; strongly acid; gradual smooth boundary.

C1—25 to 35 inches; light olive brown (2.5Y 5/4) sand; few fine distinct brown (10YR 5/3) and yellowish brown (10YR 5/6) mottles; single grain; loose; 10 percent fine gravel; strongly acid; clear smooth boundary.

C2—35 to 60 inches; grayish brown (2.5Y 5/2) stratified sands; few fine distinct yellowish brown (10YR 5/6) mottles; single grain; loose; 2 percent fine gravel; strongly acid.

The solum ranges from 25 to 36 inches in thickness. Rock fragments, generally fine gravel, range from 0 to 3 percent in the A horizon, from 0 to 15 percent in the B horizon, and from 0 to 10 percent in the C horizon. Reaction ranges from very strongly acid to moderately acid throughout.

The O horizon has hue of 10YR, value of 2, chroma of 0 to 2. In plowed areas the soil has an Ap horizon that has hue of 10YR, value of 3 or 4, and chroma of 2. Texture of the Ap horizon is loamy fine sand, loamy sand, or sand.

The E horizon has hue of 7.5YR or 10YR, value of 4 to 6, and chroma of 1 or 2. Its texture is loamy fine sand, loamy sand, or sand.

The B horizon in the upper part has hue of 2.5YR to 10YR, value of 2 to 5, and chroma of 2 to 6. In the lower part it has hue of 7.5YR to 2.5Y, value of 4 to 6, and chroma of 2 to 4. Texture of the horizon ranges from loamy fine sand to sand or its gravelly analog.

The C horizon has hue of 10YR or 2.5Y, value of 5 or 6, and chroma of 2 to 4. Its texture ranges from loamy sand to sand.

Dutchess Series

The Dutchess series consists of very deep, well drained soils that formed in loamy glacial till. These soils are on glaciated uplands in the western part of the county. Slopes range from 3 to 50 percent.

Dutchess soils are near Cardigan, Kearsarge, Pittstown, and Bernardston soils. Unlike Dutchess soils, Cardigan soils are moderately deep and Kearsarge soils are shallow. Dutchess soils have a friable substratum and Bernardston and Pittstown soils have a firm substratum.

Typical pedon of Dutchess silt loam, in an area of Dutchess silt loam, 8 to 15 percent slopes, very stony, located in the town of Chesterfield, 1.7 miles west of Spofford Lake and 0.8 mile north of NH 9, 20 feet west of dirt road, in a wooded area:

Oe—2 inches to 0; moderately decomposed organic mat.

A—0 to 3 inches; dark brown (10YR 3/3) silt loam; weak fine granular structure; very friable; many fine, common medium and coarse roots; 5 percent channers, 5 percent gravel; very strongly acid; clear wavy boundary.

Bw1—3 to 14 inches; dark yellowish brown (10YR 4/4) channery silt loam; weak fine granular structure; very friable; many fine, common medium and coarse roots; 10 percent channers, 10 percent gravel, and 5 percent cobbles; very strongly acid; gradual wavy boundary.

Bw2—14 to 21 inches; olive brown (2.5Y 4/4) channery silt loam; weak fine granular structure; very friable; common fine and medium, and few coarse roots; 15 percent channers, 10 percent gravel, and 5 percent cobbles; strongly acid; clear wavy boundary.

C—21 to 60 inches; olive (5Y 4/3) channery very fine sandy loam; massive; friable; few fine and medium roots in upper part; 20 percent channers, 10 percent gravel, and 4 percent cobbles; strongly acid.

The solum ranges from 20 to 36 inches in thickness. Rock fragments range from 5 to 30 percent in the solum and from 20 to 40 percent in the substratum. Reaction ranges from very strongly acid to moderately acid in the solum and is strongly acid or moderately acid in the substratum.

The A horizon has hue of 10YR, value of 2 to 4, and chroma of 2 or 3. Its texture is loam, silt loam, or their gravelly or channery analog.

The B horizon in the upper part has hue of 10YR, value of 4 or 5, and chroma of 4 to 6. In the lower part it has hue of 10YR or 2.5Y, value of 4 or 5, and chroma of 2 to 6. Texture of the B horizon is loam, silt loam, or their gravelly or channery analog.

The C horizon has hue of 10YR to 5Y, value of 3 to 5, and chroma of 2 to 4. Its texture ranges from silt loam to fine sandy loam or their gravelly, very gravelly, channery, or very channery analog.

Greenwood Series

The Greenwood series consists of very deep, very poorly drained soils that formed in moderately decomposed organic material. These soils are in depressions on glacial outwash plains, stream terraces, and glacial till uplands, and along the borders of lakes and ponds. Slopes range from 0 to 2 percent.

Greenwood soils formed in the same kind of parent material as and are near Chocorua and Ossipee soils and Borohemists. Greenwood soils formed in organic deposits more than 51 inches thick, and Ossipee and Chocorua soils formed in organic deposits less than 51 inches thick. Greenwood soils are not as variable in composition as Borohemists. They are also near Searsport, Pillsbury, Lyme, Naumburg, and Moosilauke soils. Greenwood soils formed in organic deposits, but Searsport, Naumburg, Pillsbury, Lyme, and Moosilauke soils formed in mineral material.

Typical pedon of Greenwood mucky peat in the town of Jaffrey, 300 feet east of NH 137, and 0.5 mile southeast of Frost Pond, in a wooded area:

Oe1—0 to 2 inches; black (5YR 2/1) broken face and rubbed mucky peat; 55 percent fibers, 35 percent rubbed; massive; slightly sticky, slightly plastic; few fine roots; very strongly acid; abrupt smooth boundary.

Oe2—2 to 15 inches; very dark grayish brown (10YR 3/2) broken face and rubbed mucky peat; 55 percent fibers, 35 percent rubbed; massive; slightly sticky, slightly plastic; few fine roots; extremely acid; abrupt smooth boundary.

Oe3—15 to 34 inches; dark reddish brown (5YR 2/2) broken face and rubbed mucky peat; 45 percent fibers, 20 percent rubbed; massive; slightly sticky, slightly plastic, very strongly acid; abrupt smooth boundary.

Oe4—34 to 43 inches; very dark gray (5YR 3/1) broken face and rubbed mucky peat; 50 percent fibers, 25 percent rubbed; massive; slightly sticky, slightly plastic; very strongly acid; abrupt smooth boundary.

Oe5—43 to 60 inches; dark reddish brown (5YR 2/2) broken face and black (5YR 2/1) rubbed mucky

peat; 70 percent fiber, 35 percent rubbed; massive; slightly sticky, slightly plastic; very strongly acid.

The organic material is more than 51 inches thick. The fibers are mainly herbaceous, but in some pedons woody fragments make up as much as 30 percent.

The Oe tiers have a broken face and rubbed hue of 5YR to 10YR, value of 2 or 3, and chroma of 1 or 2. Fiber content ranges from 35 to 70 percent undisturbed and from 15 to 40 percent rubbed. Some pedons have layers of fibric or sapric material less than 10 inches thick.

Hadley Series

The Hadley series consists of very deep, well drained soils that formed in loamy, alluvial deposits. These soils are on flood plains adjacent to the Connecticut River and the larger streams flowing into the Connecticut River. Slopes range from 0 to 3 percent.

Hadley soils formed in the same kind of parent material as and are near moderately well drained Winooski soils, poorly drained Limerick soils, and very poorly drained Saco soils. Hadley soils are also near Occum, Pootatuck, and Rippowam soils. Hadley soils have more silt and very fine sand than these other soils. Also, Pootatuck soils are moderately well drained and Rippowam soils are poorly drained.

Typical pedon of Hadley silt loam, in the town of Westmoreland, 1,300 feet west of NH 12, 1,300 feet east of confluence of Aldrich Brook and the Connecticut River, and 25 feet south of steep escarpment, in a cornfield:

Ap—0 to 11 inches; very dark grayish brown (2.5Y 3/2) silt loam, light brownish gray (2.5Y 6/2) dry; moderate medium subangular blocky structure; friable; common fine roots; neutral; clear smooth boundary.

C1—11 to 17 inches; olive gray (5Y 4/2) silt loam; moderate medium subangular blocky structure; friable; few fine roots; lenses, 0.5 to 1 inch thick, of light olive gray (5Y 6/2) very fine sand; neutral; clear smooth boundary.

C2—17 to 30 inches; olive gray (5Y 5/2) silt loam; massive; slightly firm; lenses, 1 to 2 inches thick, of light olive brown (2.5Y 5/4) very fine sand; neutral; clear wavy boundary.

C3—30 to 42 inches; olive gray (5Y 4/2) silt loam, massive; slightly firm; lenses, 0.5 to 5 inches thick, of light olive brown (2.5Y 5/4) very fine sand; neutral; clear wavy boundary.

C4—42 to 60 inches; olive gray (5Y 5/2) silt loam; massive; slightly firm; many fine streaks of dark reddish brown (5YR 3/4) fine sand; neutral.

Texture to a depth of 40 inches is dominantly silt loam and very fine sandy loam. Below that depth texture ranges from silt loam to fine sand. Some pedons have thin strata or lenses of loamy fine sand, very fine sand, and fine sand.

The Ap horizon has hue of 10YR or 2.5Y, value of 3 or 4, and chroma of 2 to 4.

The C horizon has hue of 10YR to 5Y, value of 3 to 6, and chroma of 2 to 4.

Haven Series

The Haven series consists of very deep, well drained soils that formed in a loamy mantle underlain by stratified sands and gravel. These soils are on glacial outwash plains and stream terraces. Slopes range from 0 to 15 percent.

Haven soils formed in the same kind of parent material as and are near Agawam, Unadilla, Hoosic, and Windsor soils. Haven soils have more gravel in the C horizon than Agawam and Windsor soils. Haven soils have sand and gravel in the C horizon and Unadilla soils have silts and very fine sand in the C horizon. Haven soils have less gravel in the solum than Hoosic soils.

Typical pedon of Haven very fine sand loam, 3 to 8 percent slopes, in the town of Chesterfield, about 270 feet south of NH 9, 0.4 mile east of the Connecticut River, in a gravel pit:

Ap—0 to 4 inches; dark brown (10YR 3/3) very fine sandy loam; weak medium granular structure; friable; many fine roots; 2 percent gravel; moderately acid; abrupt smooth boundary.

Bw1—4 to 6 inches; dark brown (7.5YR 4/4) very fine sandy loam; weak medium subangular blocky structure; friable; common fine roots; 2 percent gravel; moderately acid; clear smooth boundary.

Bw2—6 to 13 inches; dark yellowish brown (10YR 4/4) very fine sandy loam; weak medium subangular blocky structure; friable; common fine roots; 2 percent gravel; moderately acid; clear smooth boundary.

Bw3—13 to 19 inches; yellowish brown (10YR 5/4) very fine sandy loam; weak medium subangular blocky structure; friable; few fine roots; 2 percent gravel; moderately acid; clear smooth boundary.

BC—19 to 22 inches; olive brown (2.5Y 4/4) gravelly fine sandy loam; weak fine subangular blocky structure; friable; few fine roots; 15 percent gravel; moderately acid; abrupt smooth boundary.

2C—22 to 60 inches; variegated, dark grayish brown (2.5Y 4/2) and olive brown (2.5Y 4/4) extremely gravelly sand; single grain; loose; 55 percent gravel and 10 percent cobbles; moderately acid.

The solum ranges from 18 to 30 inches in thickness. Rock fragments, dominantly gravel, range from 2 to 10 percent, by volume, in the A and Bw horizons and from 10 to 30 percent in the BC horizon. They range from 15

to 65 percent in the 2C horizon. Reaction ranges from very strongly acid to moderately acid throughout.

The A horizon has hue of 10YR, value of 3 or 4, and chroma of 2 or 3. Its texture is loam or very fine sandy loam.

The B horizon has hue of 7.5YR to 2.5Y, value of 4 to 6, and chroma of 3 to 6. Texture of the Bw horizon is very fine sandy loam. Texture of the BC horizon is gravelly fine sandy loam or gravelly sandy loam.

The 2C horizon has hue of 10YR or 2.5Y, value of 4 to 6, and chroma of 2 to 6. Its texture is very gravelly sand or extremely gravelly sand.

Hoosic Series

The Hoosic series consists of very deep, somewhat excessively drained soils that formed in water-deposited sands and gravel. These soils are on glacial outwash plains and stream terraces. Slopes range from 3 to 50 percent.

Hoosic soils formed in the same kind of parent material as and are near Agawam, Unadilla, Windsor, Haven, and Ninigret soils. Hoosic soils have more gravel in the C horizon than Agawam, Unadilla, and Windsor soils. Hoosic soils have more gravel in the solum than Haven and Ninigret soils.

Typical pedon of Hoosic gravelly fine sandy loam, 3 to 8 percent slopes, in the town of Walpole, 1.1 miles east of the Connecticut River and 0.8 mile south of NH 123, in a small gravel pit:

Ap—0 to 5 inches; dark brown (10YR 3/3) gravelly fine sandy loam; weak fine granular structure; very friable; few coarse, many fine, and common medium roots; 15 percent gravel; very strongly acid; clear wavy boundary.

Bw1—5 to 13 inches; dark yellowish brown (10YR 4/4) gravelly fine sandy loam; weak fine granular structure; very friable; few coarse, common medium, and common fine roots; 20 percent gravel; strongly acid; clear wavy boundary.

Bw2—13 to 18 inches; olive brown (2.5Y 4/4) very gravelly fine sandy loam; weak fine granular structure; very friable; common fine and few medium roots; 35 percent gravel; strongly acid; abrupt smooth boundary.

2C—18 to 60 inches; variegated, light olive brown (2.5Y 5/4) and brown (10YR 5/3) very gravelly sand; single grain; loose; few fine roots in the upper part; 45 percent gravel, 5 percent cobbles; moderately acid.

The solum ranges from 14 to 30 inches in thickness. Rock fragments, mostly gravel, range from 10 to 50 percent, by volume, in the solum and from 35 to 70 percent in the substratum. The volume includes as much as 5 percent cobbles in the solum and as much as 10 percent cobbles in the substratum. Reaction is very strongly acid or strongly acid above a depth of 30 inches and strongly acid or moderately acid below that depth.

The Ap horizon has hue of 10YR, value of 3 or 4, and chroma of 2 or 3. Its texture is very fine sandy loam, fine sandy loam, or their gravelly analog.

The B horizon has hue of 7.5YR to 2.5Y, value of 4 or 5, and chroma of 4 to 6. Its texture is fine sandy loam or gravelly fine sandy loam above a depth of 10 to 25 inches and, below that, gravelly or very gravelly loamy sand or sand.

The 2C horizon has hue of 10YR or 2.5Y, value of 3 to 5, and chroma of 2 to 4. Its texture is very gravelly sand or extremely gravelly sand.

Kearsarge Series

The Kearsarge series consists of shallow, somewhat excessively drained soils that formed in glacial till. These soils are underlain by interbedded phyllite and schist. Kearsarge soils are on upland hills. Slopes range from 3 to 50 percent.

Kearsarge soils formed in the same kind of parent material as and are near moderately deep Cardigan soils and very deep Dutchess soils.

Typical pedon of Kearsarge silt loam, in an area of Cardigan-Kearsarge complex, 3 to 8 percent slopes, in the town of Walpole, 0.8 mile east of NH 12 and 1.3 miles north of Westmoreland townline, in a hayfield:

Ap—0 to 9 inches; dark brown (10YR 4/3) silt loam; weak very fine granular structure; very friable; many fine roots; 2 percent gravel, 5 percent channers; slightly acid; abrupt smooth boundary.

Bw—9 to 17 inches; yellowish brown (10YR 5/6) silt loam; weak fine granular structure; very friable; many fine roots; 3 percent gravel, 10 percent channers; slightly acid; abrupt irregular boundary.

R—17 inches; phyllite bedrock.

Solum thickness and depth to bedrock range from 10 to 20 inches. Rock fragments range from 5 to 30 percent, by volume. Reaction ranges from very strongly acid to slightly acid, unless the soils have been limed.

The A horizon has hue of 10YR, value of 3 or 4, and chroma of 2 to 4. Some pedons have an Ap horizon that has hue of 10YR or 2.5Y, value of 3 or 4, and chroma of 2 to 4. Its texture is loam, silt loam, or their gravelly or channery analog.

The B horizon has hue of 7.5YR to 2.5Y, value of 4 or 5, and chroma of 4 to 6. Its texture is silt loam, loam, very fine sandy loam, or their gravelly or channery analog. Some pedons have thin layers of soft rock overlying hard bedrock.

Limerick Series

The Limerick series consists of very deep, poorly drained soils that formed in loamy alluvial deposits. These nearly level soils are on flood plains. Slopes range from 0 to 2 percent.

Limerick soils formed in the same kind of parent material as and are near well drained Hadley soils, moderately well drained Winooski soils, and very poorly drained Saco soils. They are also near Rippowam soils on similar landscapes. They have more silt and very fine sand than Rippowam soils.

Typical pedon of Limerick silt loam, in the town of Hinsdale, 30 feet east of Liscomb Brook near the junction of Liscomb Brook and powerline right-of-way, in an idle field:

Oe—3 inches to 0; moderately decomposed organic mat.

A—0 to 3 inches; very dark grayish brown (10YR 3/2) silt loam; few medium faint dark gray (10YR 4/1) mottles; weak medium granular structure; friable; many fine and common medium roots; moderately acid; clear wavy boundary.

C1g—3 to 12 inches; dark grayish brown (2.5Y 4/2) silt loam; common fine prominent yellowish red (5YR 4/6) mottles; massive; very friable; common fine roots; strongly acid; clear wavy boundary.

C2g—12 to 28 inches; dark gray (5Y 4/1) very fine sandy loam; slightly sticky, slightly plastic; few fine prominent yellowish red (5YR 4/6) mottles; massive; few fine roots; strongly acid; gradual wavy boundary.

C3g—28 to 47 inches; dark gray (2.5Y 4/0) silt loam; massive; slightly sticky, slightly plastic; strongly acid; gradual wavy boundary.

C4g—47 to 60 inches; dark gray (5Y 4/1) very fine sandy loam; massive; slightly sticky, slightly plastic; strongly acid.

Texture to a depth of 40 inches is silt loam or very fine sandy loam. Below that depth, texture ranges from silt loam to fine sand. Reaction is strongly acid or moderately acid.

The A horizon has hue of 10YR or 2.5Y, value of 3 or 4, and chroma of 2 or 3.

The C horizon has hue of 10YR to 5Y, value of 4 or 5, and chroma of 1 or 2. Mottles range from few to many and from faint to prominent.

Lyman Series

The Lyman series consists of shallow, somewhat excessively drained soils that formed in a thin mantle of loamy glacial till. These soils are on hilltops, ridges, and mountains. They are underlain by schist, gneiss, and granite bedrock. Slopes range from 3 to 50 percent.

Lyman soils are near Tunbridge, Berkshire, and Monadnock soils. Tunbridge soils are moderately deep to bedrock. Berkshire and Monadnock soils are very deep to bedrock.

Typical pedon of Lyman fine sandy loam, in an area of Tunbridge-Lyman-Rock outcrop complex, 15 to 25 percent slopes, in the town of Harrisville, 1,300 feet west of the Hillsborough County line and 1,200 feet southeast of Beaver Pond, in a wooded area:

Oe—1 inch to 0; moderately decomposed organic mat.

Oa—0 to 1 inch; well decomposed organic mat.

Bs1—1 to 4 inches; yellowish red (5YR 4/6) fine sandy loam; weak fine granular structure; very friable; few coarse, common medium, and many fine roots; 10 percent gravel, 3 percent cobbles; very strongly acid; clear wavy boundary.

Bs2—4 to 8 inches; strong brown (7.5YR 4/6) fine sandy loam; weak fine granular structure; very friable; few coarse, common and many fine roots; 10 percent gravel, 3 percent cobbles; strongly acid; clear wavy boundary.

Bw—8 to 16 inches; yellowish brown (10YR 5/4) gravelly fine sandy loam; weak fine granular structure; very friable; few coarse, few medium, and common fine roots; 15 percent gravel, 3 percent cobbles; strongly acid; abrupt smooth boundary.

R—16 inches; granitic bedrock.

Thickness of the solum and depth to bedrock both range from 8 to 20 inches. Rock fragments range from 5 to 20 percent, by volume, in the upper part of the solum and from 10 to 30 percent in the lower part. Reaction ranges from extremely acid to moderately acid throughout.

Some pedons have an A horizon that has hue of 7.5YR or 10YR, value of 2 or 3, and chroma of 0 to 2. Its texture is fine sandy loam, sandy loam, or their gravelly analog.

The Bs horizon has hue of 2.5YR to 10YR, value of 3 or 4, and chroma of 3 to 8. The Bw horizon has hue of 10YR or 2.5Y, value of 3 to 5, and chroma of 3 or 4. Texture of the B horizon ranges from sandy loam to loam and their gravelly analog.

Lyme Series

The Lyme series consists of very deep, poorly drained soils that formed in loamy glacial till. These soils are in depressions, on lower foot slopes of hills, and along drainageways on uplands. Slopes range from 0 to 5 percent.

Lyme soils formed in the same kind of parent material as and are near well drained Berkshire and Monadnock soils and moderately well drained Sunapee soils. Lyme soils are also near Pillsbury soils. Lyme soils have a friable substratum, but Pillsbury soils have a firm, compact substratum. Lyme soils are also near poorly drained or somewhat poorly drained Moosilauke soils,

but have less sand in the substratum than the other soils.

Typical pedon of Lyme fine sandy loam, in an area of Lyme and Moosilauke soils, 0 to 5 percent slopes, very stony, in the town of Jaffrey, 0.6 mile east of NH 137, 1.2 miles south of Parker Pond and 40 feet north of powerline right-of-way in woodland:

Oi—3 inches to 0; slightly decomposed organic mat.

Oa—0 to 4 inches; black (7.5YR 2/0) well decomposed organic mat.

A—4 to 6 inches; very dark gray (10YR 3/1) fine sandy loam; grayish brown (10YR 5/2) dry; moderate fine granular structure; friable; common coarse, medium, and fine roots; 5 percent gravel, 3 percent cobbles, and 5 percent stones; very strongly acid; clear wavy boundary.

Bg1—6 to 10 inches; light brownish gray (10YR 6/2) fine sandy loam; weak fine granular structure; friable; few coarse, medium, and common fine roots; 5 percent gravel, 2 percent cobbles; very strongly acid; clear wavy boundary.

Bg2—10 to 17 inches; gray (5Y 6/1) fine sandy loam; many medium and coarse prominent yellowish red (5YR 5/8), strong brown (7.5YR 4/6), and yellowish brown (10YR 5/4) mottles; weak medium subangular blocky structure; friable; few coarse, medium, and fine roots; 5 percent gravel, 2 percent cobbles; strongly acid; gradual irregular boundary.

Bw—17 to 25 inches; olive (5Y 5/3) sandy loam; many medium and coarse prominent yellowish brown (10YR 5/6) and strong brown (7.5YR 4/6) and common coarse distinct gray (5Y 6/1) mottles; weak medium subangular blocky structure; friable; few fine roots; 5 percent gravel, 3 percent cobbles; strongly acid; gradual wavy boundary.

C—25 to 60 inches; light olive brown (2.5Y 5/4) sandy loam; common medium prominent light brownish gray (10YR 6/2) and yellowish brown (10YR 5/8) mottles; massive; friable; 8 percent gravel, 5 percent cobbles; streaks and pockets of gray (10YR 6/1) sandy loam; strongly acid.

The solum ranges from 15 to 36 inches in thickness. Rock fragments range from 5 to 30 percent, by volume, in the solum and from 10 to 35 percent in the substratum. Reaction is very strongly acid or strongly acid throughout.

The A horizon has hue of 10YR, value of 2 or 3, and chroma of 1 or 2. Its texture is loam, fine sandy loam, sandy loam, or their gravelly analog.

The B horizon has hue of 10YR to 5Y, value of 4 to 6, and chroma of 1 or 2 in the upper part and chroma of 2 to 4 in the lower part. Its texture is loam, fine sandy loam, sandy loam, or their gravelly or cobbly analog.

The C horizon has hue of 10YR to 5Y, value of 4 to 6, and chroma of 1 to 4. Its texture is fine sandy loam, sandy loam, or their gravelly or cobbly analog.

Marlow Series

The Marlow series consists of very deep, well drained soils that formed in loamy material underlain by compacted glacial till. These soils are on rounded, smooth-sided, oval hills of glaciated uplands. Slopes range from 3 to 50 percent.

Marlow soils formed in the same kind of parent material as and are near moderately well drained Peru soils and poorly drained or somewhat poorly drained Pillsbury soils. Marlow soils are near Berkshire, Monadnock, Becket, Skerry, Sunapee, and Lyme soils. Marlow soils have a dense, compacted substratum, and Berkshire, Monadnock, Sunapee, and Lyme soils have a friable substratum. They have more silt and very fine sand in the substratum than Becket and Skerry soils.

Typical pedon of Marlow fine sandy loam, in an area of Marlow fine sandy loam, 15 to 25 percent slopes, very stony, in the town of Stoddard, 2,000 feet east of Highland Lake and 1.6 miles southwest of Trout Pond, in a wooded area:

Oi—1 inch to 0; partly decomposed organic root mat.

A—0 to 4 inches; dark brown (10YR 3/3) fine sandy loam; weak fine granular structure; very friable; many fine and medium roots; 5 percent rock fragments; strongly acid; clear wavy boundary.

Bs—4 to 9 inches; dark brown (7.5YR 4/4) fine sandy loam; weak fine granular structure; very friable; many fine and medium roots; 10 percent rock fragments; strongly acid; clear wavy boundary.

Bw1—9 to 15 inches; yellowish brown (10YR 5/6) fine sandy loam; weak fine subangular blocky structure; friable; common fine and medium roots; 10 percent rock fragments; strongly acid; clear wavy boundary.

Bw2—15 to 25 inches; light olive brown (2.5Y 5/4) fine sandy loam; weak fine subangular blocky structure; friable; common fine and medium roots; 10 percent rock fragments; strongly acid; clear wavy boundary.

Cd1—25 to 37 inches; olive gray (5Y 4/2) gravelly fine sandy loam; few medium distinct dark brown (7.5YR 4/4) mottles; massive; firm; 20 percent rock fragments; strongly acid; abrupt smooth boundary.

Cd2—37 to 60 inches; dark gray (5Y 4/1) gravelly loam; common medium distinct dark brown (7.5YR 4/4) mottles; moderate medium platy structure; very firm; 20 percent rock fragments; strongly acid.

The solum ranges from 14 to 35 inches in thickness. Rock fragments range from 5 to 30 percent throughout, by volume. Reaction ranges from very strongly acid to moderately acid throughout.

The A horizon has hue of 10YR, value of 2 to 4, and chroma of 1 to 4. Some pedons have an Ap horizon that has hue of 10YR or 2.5Y, and value and chroma of 2 to 4. Texture of the A, or Ap, horizon is loam, fine sandy loam, or their gravelly analog.

The Bs horizon has hue of 5YR to 10YR, value of 3 to 5, and chroma of 3 to 8. The Bw horizon has hue of 10YR or 2.5Y, value of 4 or 5, and chroma of 3 to 6. Some pedons have a BC horizon that has hue of 2.5Y or 5Y, value of 4 to 6, and chroma of 3 to 6. Texture of the B horizon is sandy loam, fine sandy loam, loam, or their gravelly analog.

The Cd horizon has hue of 2.5Y or 5Y, value of 3 to 5, and chroma of 1 to 4. Its texture is fine sandy loam, loam, sandy loam, or their gravelly analog. Its consistence is firm or very firm.

Merrimac Series

The Merrimac series consists of very deep, somewhat excessively drained soils that formed in a loamy mantle over sand and gravel material. These soils are on glacial outwash plains, terraces, eskers, and kames. Slopes range from 3 to 15 percent.

Merrimac soils are near Windsor, Caesar, Colton, Croghan, Naumburg, Moosilauke, and Searsport soils. Merrimac soils are loamy in the upper part of the subsoil, but Windsor, Caesar, and Colton soils are sandy in the subsoil. Croghan soils are moderately well drained, Naumburg and Moosilauke soils are poorly drained or somewhat poorly drained, and Searsport soils are very poorly drained.

Typical pedon of Merrimac fine sandy loam, 3 to 8 percent slopes, in the town of Richmond, 50 feet south of NH 119 about 3/4 mile east of the intersection of NH 119 and NH 32, in a gravel pit:

Oi—2 inches to 0; slightly decomposed organic mat.

Ap—0 to 8 inches; dark brown (10YR 3/3) fine sandy loam; weak medium granular structure; friable; 5 percent gravel; strongly acid; abrupt smooth boundary.

Bw1—8 to 15 inches; yellowish brown (10YR 5/6) fine sandy loam; weak fine granular structure; friable; 10 percent gravel; strongly acid; gradual smooth boundary.

Bw2—15 to 19 inches; yellowish brown (10YR 5/4) fine sandy loam; weak medium subangular blocky structure parting to weak medium granular; friable; 5 percent gravel; strongly acid; gradual smooth boundary.

Bw3—19 to 23 inches; yellowish brown (10YR 5/4) sandy loam; weak fine granular structure; friable; 10 percent gravel; strongly acid; clear smooth boundary.

BC—23 to 28 inches; yellowish brown (10YR 5/4) gravelly loamy sand; massive; very friable; 30 percent gravel; strongly acid; gradual smooth boundary.

C1—28 to 36 inches; brown (10YR 5/3) gravelly sand; single grain; loose; 30 percent gravel; strongly acid; gradual smooth boundary.

C2—36 to 46 inches; pale olive (5Y 6/3) fine sand; single grain; loose; moderately acid; abrupt smooth boundary.

C3—46 to 60 inches; olive (5Y 5/3) gravelly sand; single grain; loose; 30 percent fine gravel; moderately acid.

The solum ranges from 18 to 30 inches in thickness. Rock fragments, mainly gravel, range from 5 to 20 percent by volume, in the upper part of the solum and from 5 to 30 percent in the lower part. They range from 0 to 55 percent, by volume, in the substratum, and include 0 to 15 percent cobbles. Reaction is strongly acid or moderately acid throughout.

The Ap horizon has hue of 10YR, value of 3 or 4, and chroma of 2 to 4. In undisturbed areas, the A horizon has hue of 7.5YR or 10YR, value of 3 or 4, and chroma of 2 to 4. Texture of the A or Ap horizon is fine sandy loam, sandy loam, or their gravelly analog.

The Bw horizon has hue of 7.5YR or 10YR, value of 3 to 6, and chroma of 3 to 8. Its texture is fine sandy loam, sandy loam, or their gravelly analog.

The BC horizon has hue of 10YR or 2.5Y, value of 3 to 6, and chroma of 3 to 6. Its texture is sandy loam, gravelly sandy loam, loamy sand, and gravelly loamy sand.

The C horizon has hue of 10YR to 5Y, value of 4 to 6, and chroma of 2 to 4. Its texture is fine sand, sand, gravelly sand, and very gravelly sand.

Monadnock Series

The Monadnock series consists of very deep, well drained soils that that formed in a loamy mantle underlain by sandy glacial till. These soils are on upland hills, plains, and mountain side slopes. Slopes range from 3 to 50 percent.

Monadnock soils formed in the same kind of parent material as and are near moderately well drained Sunapee soils and poorly drained Lyme soils. They are also near Berkshire, Becket, Tunbridge, and Lyman soils. They have more sand in the substratum than Berkshire soils and are more permeable in the substratum than Becket soils. Tunbridge soils are moderately deep to bedrock, and Lyman soils are shallow to bedrock.

Typical pedon of Monadnock fine sandy loam, in an area of Monadnock fine sandy loam, 8 to 15 percent slopes, very stony, in the town of Jaffrey, 0.7 mile east of NH 137 and 0.6 mile southwest of Parker Pond, southwest of intersection of two town roads, in woodland:

A—0 to 3 inches; brown (10YR 4/3) fine sandy loam; weak fine granular structure; very friable; many fine roots; 2 percent gravel; very strongly acid; abrupt wavy boundary.

E—3 to 5 inches; light brownish gray (10YR 6/2) sandy loam; weak fine granular structure; very friable;

many fine roots; 2 percent gravel; very strongly acid; abrupt wavy boundary.

Bs—5 to 14 inches; reddish brown (5YR 4/4) fine sandy loam; weak fine granular structure; very friable; common fine and few medium roots; 3 percent gravel, 5 percent cobbles; very strongly acid; clear wavy boundary.

Bw—14 to 23 inches; yellowish brown (10YR 5/6) fine sandy loam; weak fine granular structure; very friable; common fine and few medium roots; 8 percent gravel, 5 percent cobbles; strongly acid; abrupt wavy boundary.

2C—23 to 60 inches; olive (5Y 5/3) gravelly loamy sand; massive; friable; few fine roots extending to a depth of 42 inches; 15 percent gravel, 5 percent cobbles, 5 percent stones; lenses and pockets of light yellowish brown (2.5Y 6/4) sand; strongly acid.

The solum ranges from 15 to 30 inches in thickness. Rock fragments range from 2 to 30 percent in the solum and from 5 to 55 percent in the substratum. Reaction ranges from very strongly acid to moderately acid throughout.

The A horizon has hue of 7.5YR or 10YR, value of 2 to 4, and chroma of 1 to 3. An Ap horizon has hue of 10YR, and value and chroma of 2 to 4. Texture of the A or Ap horizon is fine sandy loam, sandy loam, or their gravelly analog.

The E horizon has hue of 7.5YR to 2.5Y, value of 4 to 7, and chroma of 1 or 2. Its texture is fine sandy loam, sandy loam, or their gravelly analog.

The B horizon in the upper part has hue of 5YR to 10YR, value of 3 to 6, and chroma of 3 to 8. In the lower part it has hue of 10YR to 5Y, value of 4 to 6, and chroma of 3 to 8. Texture of the B horizon is dominantly fine sandy loam, but includes sandy loam, loamy sand, gravelly fine sandy loam, and gravelly sandy loam. Some pedons have a thin layer of loamy sand, loamy fine sand, or their gravelly analog in the lower part of the B horizon.

The 2C horizon has hue of 10YR to 5Y, value of 4 to 7, and chroma of 2 to 4. Its texture is loamy sand, loamy fine sand, or their gravelly or very gravelly analog. Some pedons have lenses or pockets of sand.

Moosilauke Series

The Moosilauke series consists of very deep, poorly drained or somewhat poorly drained soils that formed in a loamy mantle underlain by water-laid sands and gravel. These soils are in depressions on glacial outwash plains and along drainageways. Slopes range from 0 to 5 percent.

Moosilauke soils formed in the same kind of parent material as and are near excessively drained Colton soils and moderately well drained Sheepscot soils. Moosilauke soils are also near Naumburg, Searsport, Lyme, Croghan, and Adams soils. Unlike Moosilauke soils, Adams soils are excessively drained, Croghan soils are moderately well drained, and Searsport soils are very poorly drained. Moosilauke soils have gravel in the substratum, and Naumburg soils have sand in the substratum. Moosilauke soils have more sand in the substratum than Lyme soils.

Typical pedon of Moosilauke fine sandy loam, in the town of Marlow, 60 feet east of NH 10, 1/8 mile north of the junction of NH 10 and NH 123A, and 0.25 mile south of the Sullivan County line in Honey Brook State Park, in woodland:

Oi—1 inch to 0; slightly decomposed root mat.

A1—0 to 4 inches; very dark gray (10YR 3/1) fine sandy loam; moderate medium granular structure; friable; 5 percent gravel; many fine roots; moderately acid; clear wavy boundary.

A2—4 to 7 inches; dark gray (10YR 4/1) fine sandy loam; moderate medium granular structure; friable; 5 percent gravel; common fine roots; moderately acid; abrupt wavy boundary.

Bg1—7 to 14 inches; dark gray (10YR 4/1) sandy loam; weak fine granular structure; friable; 8 percent gravel; moderately acid; abrupt wavy boundary.

Bg2—14 to 20 inches; dark gray (10YR 4/1) gravelly sandy loam; massive; friable; 25 percent gravel; moderately acid; clear wavy boundary.

2C1—20 to 34 inches; dark brown (10YR 4/3) very gravelly sand; single grain; loose; 50 percent gravel; moderately acid; abrupt smooth boundary.

2C2—34 to 38 inches; pale brown (10YR 6/3) gravelly loamy fine sand; massive; slightly firm in place; 15 percent gravel; moderately acid; abrupt smooth boundary.

2C3—38 to 60 inches; light olive brown (2.5Y 5/4) very gravelly sand; single grain; loose; 40 percent gravel; moderately acid.

The solum and depth to sand and gravel ranges from 18 to 28 inches in thickness. Rock fragments, dominantly gravel, range from 5 to 25 percent, by volume, in the A and B horizons and from 5 to 50 percent in the 2C horizon. Reaction ranges from very strongly acid to moderately acid throughout.

The A horizon has hue of 10YR, value of 2 to 4, and chroma of 1 or 2. Its texture is loam, fine sandy loam, or sandy loam.

The B horizon has hue of 10YR to 5Y, value of 4 to 6, and chroma of 1 to 3. Its texture is sandy loam, fine sandy loam, or their gravelly analog.

The 2C horizon has hue of 10YR to 5Y, value of 4 to 6, and chroma of 2 to 4. Its texture is sand, loamy sand, or their gravelly or very gravelly analog. Many pedons have thin strata that range from fine sandy loam to gravel.

Naumburg Series

The Naumburg series consists of very deep, poorly drained or somewhat poorly drained soils that formed in water-deposited sands. These soils are in depressions on glacial outwash plains. Slopes range from 0 to 3 percent.

Naumburg soils formed in the same kind of parent material as and are near excessively drained Adams soils, moderately well drained Croghan soils, and very poorly drained Searsport soils. Naumburg soils are also near Moosilauke, Windsor, and Caesar soils. Unlike Naumburg soils, Windsor and Caesar soils are excessively drained. Naumburg soils essentially do not have gravel, but the Moosilauke soils have gravel in the substratum.

Typical pedon of Naumburg loamy fine sand, in the town of Winchester, 4,200 feet southeast of the junction of NH 10 and NH 78 and 200 feet south of NH 78, in a woodland:

Oi—3 inches to 0; slightly decomposed organic mat.

E—0 to 3 inches; dark gray (10YR 4/1) loamy fine sand; few fine faint very dark gray (10YR 3/1) mottles; single grain; loose; few fine roots; extremely acid; clear irregular boundary.

Bs1—3 to 9 inches; dark brown (7.5YR 3/4) loamy fine sand; few fine distinct strong brown (7.5YR 5/6) mottles; weak fine granular structure; very friable; many fine and common roots; very strongly acid; clear irregular boundary.

Bs2—9 to 16 inches; dark brown (7.5YR 4/4) sand; common fine prominent light olive brown (2.5Y 5/4) and few fine faint strong brown (7.5YR 5/6) mottles; weak fine granular structure; very friable; common fine and medium roots; very strongly acid; clear irregular boundary.

BC—16 to 24 inches; light olive brown (2.5Y 5/4) sand; common coarse prominent strong brown (7.5YR 5/8) and few medium distinct olive gray (5Y 4/2) mottles; single grain; loose; some slightly cemented parts; very strongly acid; clear wavy boundary.

C1—24 to 28 inches; light olive gray (5Y 6/2) fine sand; few fine prominent strong brown (7.5YR 5/8) and many medium faint olive gray (5Y 4/2) mottles; single grain; loose; strongly acid; clear wavy boundary.

C2—28 to 60 inches; light yellowish brown (2.5Y 6/4) sand; many coarse prominent strong brown (7.5YR 5/8) and few medium distinct olive gray (5Y 4/2) mottles; single grain; loose; very strongly acid; clear wavy boundary.

The solum ranges from 20 to 36 inches in thickness. Rock fragments, dominantly gravel, range from 0 to 10 percent throughout. Reaction ranges from extremely acid to strongly acid in the solum and from very strongly acid to moderately acid in the substratum.

Some pedons have an Ap horizon that has hue of 10YR, value of 4 to 5, and chroma of 1 or 2. Its texture ranges from fine sandy loam to sand.

The E horizon has hue of 5YR to 10YR, value of 4 to 7, and chroma of 1 to 3. Its texture ranges from fine sandy loam to sand.

The Bs horizon has hue of 5YR to 10YR, value of 3 to 6, and chroma of 2 to 6. The BC horizon has hue of 10YR or 2.5Y, and value and chroma of 3 to 6. Texture of the Bs and BC horizons ranges from loamy fine sand to sand.

The C horizon has hue of 10YR to 5Y, value of 4 to 6, and chroma of 2 to 4. Its texture ranges from loamy fine sand to sand.

Ninigret Series

The Ninigret series consists of very deep, moderately well drained soils that formed in a loamy mantle underlain by water-deposited sand or sand and gravel materials. These soils are on outwash plains and stream terraces. Slopes range from 0 to 8 percent.

Ninigret soils formed in the same kind of material as and are near well drained Agawam soils. Ninigret soils are also near Scio, Unadilla, Haven, and Windsor soils. Ninigret soils have more fine sand and medium sand in the C horizon than Scio soils. Unlike Ninigret soils, Unadilla and Haven soils are well drained and Windsor soils are excessively drained.

Typical pedon of Ninigret very fine sandy loam, 0 to 3 percent slopes, in the town of Swanzey, 100 yards east of NH 32 and 700 yards north of Richmond townline, in an old hayfield:

Ap—0 to 10 inches; dark brown (10YR 3/3) very fine sandy loam, pale brown (10YR 6/3) dry; moderate fine granular structure; very friable; many fine roots; moderately acid; abrupt wavy boundary.

Bw1—10 to 19 inches; brownish yellow (10YR 6/6) very fine sandy loam; weak medium subangular blocky structure; very friable; common fine roots; moderately acid; clear wavy boundary.

Bw2—19 to 22 inches; light olive brown (2.5Y 5/4) very fine sandy loam; common medium prominent strong brown (7.5YR 5/8) and many medium distinct yellowish brown (10YR 5/6) and light brownish gray (2.5Y 6/2) mottles; weak fine granular structure; friable; few fine roots; moderately acid; abrupt wavy boundary.

Bw3—22 to 26 inches; yellowish brown (10YR 5/6) fine sandy loam; common medium distinct grayish brown (10YR 5/2) mottles; weak fine granular structure; friable; moderately acid; abrupt wavy boundary.

Bw4—26 to 33 inches; olive gray (5Y 5/2) very fine sandy loam; common medium prominent light olive brown (2.5Y 5/6) and yellowish brown (10YR 5/6)

mottles; massive; friable; moderately acid; abrupt smooth boundary.
2C1—33 to 40 inches; yellowish brown (10YR 5/6) gravelly sand; single grain; loose; 30 percent gravel; moderately acid; abrupt smooth boundary.
2C2—40 to 46 inches; variegated, light yellowish brown (10YR 6/4) and brownish yellow (10YR 6/6) gravelly sand; single grain; loose; 20 percent gravel; slightly acid; clear wavy boundary.
2C3—46 to 60 inches; variegated, light brownish gray (2.5Y 6/2) and grayish brown (2.5Y 5/2) sand; single grain; loose; 10 percent gravel; slightly acid.

Thickness of the solum and depth to contrasting material ranges from 18 to 34 inches. Rock fragments, dominantly gravel, range from 0 to 10 percent in the solum and from 0 to 30 percent in the C horizon. Reaction is moderately acid or strongly acid in the solum and slightly acid or moderately acid in the substratum.

The Ap horizon has hue of 10YR, and value and chroma of 2 to 4. Its texture is very fine sandy loam or fine sandy loam.

The B horizon in the upper part has hue of 7.5YR or 10YR, value of 4 to 6, and chroma of 4 to 6. In the lower part it has hue of 10YR to 5Y, value of 4 to 6, and chroma of 2 to 6. In the lower part it is mottled. Texture of the B horizon is very fine sandy loam or fine sandy loam.

The 2C horizon has hue of 10YR to 5Y, value of 4 to 6, and chroma of 2 to 6. Its texture ranges from loamy fine sand to sand and their gravelly analog.

Occum Series

The Occum series consists of very deep, well drained soils that formed in alluvial deposits. These soils are on flood plains. Slopes range from 0 to 3 percent.

Occum soils formed in the same kind of parent material as and are near moderately well drained Pootatuck soils and poorly drained Rippowam soils. Occum soils are also near Suncook and Hadley soils. Occum soils have a loamy textured B horizon, and Suncook soils have a sandy textured B horizon. Occum soils have fine sandy loam and sandy loam textures in the solum and a sand texture in the substratum, and Hadley soils are silt loam or very fine sandy loam throughout.

Typical pedon of Occum fine sandy loam, in the city of Keene, 600 feet west of the Ashuelot River and 1,000 feet east of NH 12A, 1.4 miles south of Surry townline, 10 feet east of access road to water wells of the city of Keene, in a limed cornfield:

Ap—0 to 8 inches; dark brown (10YR 3/3) fine sandy loam; moderate medium granular structure; friable; few fine roots; slightly acid; abrupt smooth boundary.
Bw1—8 to 24 inches; light olive brown (2.5Y 5/6) fine sandy loam; weak fine subangular blocky structure; friable; few fine roots; neutral; clear irregular boundary.
Bw2—24 to 29 inches; olive yellow (2.5Y 6/6) sandy loam; weak fine granular structure; friable; few fine roots; slightly acid; gradual wavy boundary.
C1—29 to 39 inches; variegated, olive yellow (2.5Y 6/6) and light yellowish brown (2.5Y 6/4) loamy sand; single grain; loose; moderately acid; gradual wavy boundary.
C2—39 to 60 inches; variegated, light yellowish brown (2.5Y 6/4) and pale yellow (2.5 7/4) sand; single grain; loose; moderately acid.

The solum ranges from 20 to 36 inches in thickness. Rock fragments, dominantly gravel, range from 0 to 15 percent in the solum and from 0 to 50 percent in the C horizon. Reaction ranges from strongly acid to slightly acid, unless the soils have been limed.

The Ap horizon has hue of 10YR, value of 3 or 4, and chroma of 2 to 4. Its texture is fine sandy loam or sandy loam.

The B horizon has hue of 10YR or 2.5Y, and value and chroma of 3 to 6. Its texture is sandy loam or fine sandy loam.

The C horizon has hue of 10YR to 5Y, value of 3 to 7, and chroma of 2 to 6. Its texture ranges from loamy fine sand to very gravelly coarse sand.

Ossipee Series

The Ossipee series consists of very deep, very poorly drained soils that formed in moderately decomposed organic material 16 to 51 inches thick overlying loamy mineral material. These soils are in depressions on glacial till uplands, on glacial outwash plains, and along borders of shallow lakes and ponds. Slopes range from 0 to 2 percent.

Ossipee soils formed in the same kind of parent material as and are near Chocorua and Greenwood soils and Borohemists. Ossipee soils have 16 to 51 inches of moderately decomposed organic material over loamy material, and Chocorua soils have 16 to 51 inches of organic material over sandy mineral material. Greenwood soils have more than 51 inches of moderately decomposed organic material, and Borohemists are more variable in composition than Ossipee soils. Ossipee soils are also near Lyme, Moosilauke, and Pillsbury soils. Unlike Ossipee soils, Lyme, Moosilauke, and Pillsbury soils formed in mineral material.

Typical pedon of Ossipee mucky peat, in the town of Chesterfield, about 0.7 mile northeast of NH 63, and about 500 feet east of Spofford Lake, in woodland:

Oe1—0 to 11 inches; dark reddish brown (5YR 2/2) on broken faces, black (10YR 2/1) rubbed, mucky peat; about 40 percent fibers, 20 percent rubbed; weak

medium granular structure; many fine roots; very strongly acid; clear smooth boundary.

Oe2—11 to 20 inches; dark reddish brown (5YR 2/2) on broken faces, black (10YR 2/1) rubbed, mucky peat; 50 percent fibers, 20 percent rubbed; massive; few fine roots; very strongly acid; gradual smooth boundary.

Oe3—20 to 30 inches; dark reddish brown (5YR 3/2) on broken faces, dark reddish brown (5YR 2/2) rubbed, mucky peat; 60 percent fibers, 35 percent rubbed; weak fine and medium granular structure; 15 percent soft woody fragments; very strongly acid; abrupt smooth boundary.

2C—30 to 60 inches; gray (N 5/0) very fine sandy loam; common medium prominent brown (7.5YR 4/4), yellowish brown (10YR 5/6), and strong brown (7.5YR 5/6) mottles; horizontally oriented; massive; friable to firm; some dark reddish brown (5YR 3/3) stains or iron accumulations; firm; very strongly acid.

The organic layers range from 16 to 50 inches in thickness. They consist of moderately decomposed herbaceous and woody materials. Slightly decomposed woody fragments comprise 2 to 15 percent, by volume, of the organic materials. The Oe layers have hue of 5YR, value of 1 to 3, and chroma of 1 or 2.

The surface tier consists of hemic or fibric material with an unrubbed fiber content of 40 to 75 percent of the organic volume and a rubbed fiber content of 15 to 50 percent.

The subsurface tier has an unrubbed fiber content of 50 to 80 percent of the organic volume and a rubbed fiber content of 20 to 40 percent.

The 2C horizon is neutral or has hue of 10YR to 5Y, value of 4 to 6, and chroma of 0 to 2. Its texture is sandy loam, fine sandy loam, very fine sandy loam, loam, or silt loam.

Peru Series

The Peru series consists of very deep, moderately well drained soils that formed in loamy material underlain by basal till. These soils are on broad, gently sloping crests or in concave, lower slope positions of glaciated uplands. Slopes range from 3 to 25 percent.

Peru soils formed in the same kind of parent material as and are near well drained Marlow soils and poorly drained or somewhat poorly drained Pillsbury soils. These soils are also near Berkshire, Sunapee, Skerry, and Lyme soils. Berkshire soils are well drained, and Lyme soils are poorly drained. Peru soils have a firm, compacted substratum, and Sunapee soils have a friable substratum. Peru soils have more silt and very fine sand in the substratum than Skerry soils.

Typical pedon of Peru fine sandy loam, 3 to 8 percent slopes, in the town of Marlow, 3,300 feet east of NH 10 and 2,200 feet south of Stone Pond, in woodland:

Oi—3 to 2 inches; loose pine needles and hardwood leaves.

Oe—2 inches to 0; moderately decomposed organic mat.

Ap—0 to 7 inches; dark brown (10YR 3/3) fine sandy loam; weak fine granular structure; very friable; 5 percent gravel; few coarse, many fine and medium roots; very strongly acid; abrupt wavy boundary.

E—7 to 9 inches; gray (10YR 6/1) sandy loam; weak medium granular structure; very friable; common fine, many medium, and few coarse roots; 5 percent gravel; very strongly acid; abrupt broken boundary.

Bs1—9 to 15 inches; 70 percent dark brown (7.5YR 4/4) and 30 percent reddish brown (5YR 4/4) fine sandy loam; weak fine granular structure; very friable; common fine, few medium, and few coarse roots; 5 percent gravel; 3 percent cobbles; strongly acid; clear wavy boundary.

Bs2—15 to 21 inches; 70 percent dark yellowish brown (10YR 4/4) and 30 percent dark brown (7.5YR 4/4) fine sandy loam; few fine distinct yellowish red (5YR 4/6) and common medium, distinct grayish brown (10YR 5/2) mottles; weak fine granular structure; friable; few fine, medium, and coarse roots; 5 percent gravel, 3 percent cobbles; strongly acid; clear wavy boundary.

C—21 to 25 inches; olive (5Y 5/3) gravelly sandy loam; common medium distinct gray (5Y 5/1) and few fine prominent dark yellowish brown (10YR 4/4) mottles; massive; friable; 12 percent gravel, 5 percent cobbles; strongly acid; clear wavy boundary.

Cd—25 to 60 inches; olive gray (5Y 4/2) gravelly fine sandy loam; common fine prominent dark yellowish brown (10YR 4/4) mottles; moderate thin platy structure; very firm; 15 percent gravel, 3 percent cobbles; strongly acid.

The solum ranges from 15 to 36 inches in thickness. Rock fragments range from 5 to 30 percent throughout. Reaction ranges from very strongly acid to moderately acid throughout.

The A, or Ap, horizon has hue of 10YR, value of 2 to 4, and chroma of 2 or 3. Its texture is loam, fine sandy loam, sandy loam, or their gravelly analog.

The E horizon has hue of 10YR, value of 4 to 6, and chroma of 1 or 2. Its texture is fine sandy loam, sandy loam, or their gravelly analog.

The Bs horizon has hue of 5YR to 10YR, value of 3 to 5, and chroma of 3 to 8. Some pedons have Bw and BC horizons that have hue of 10YR to 5Y, value of 4 to 6, and chroma of 2 to 6. Texture of the B horizon is fine sandy loam, loam, sandy loam, or their gravelly analog.

The C horizon is as much as 8 inches thick, and has color and texture similar to those of the underlying Cd horizon. Some pedons do not have a C horizon. The Cd horizon has hue of 10YR to 5Y, value of 4 to 6, and chroma of 2 to 4. Its texture is fine sandy loam, loam, sandy loam, or their gravelly analog.

Pillsbury Series

The Pillsbury series consists of very deep, poorly drained or somewhat poorly drained soils that formed in loamy material underlain by compact glacial till. These soils are in concave, depressional areas and along drainageways of glaciated uplands. Slopes range from 0 to 5 percent.

Pillsbury soils formed in the same kind of parent material as and are near well drained Marlow soils and moderately well drained Peru soils. Pillsbury soils are also near Lyme soils. Pillsbury soils have a firm compacted substratum, and Lyme soils have a friable substratum.

Typical pedon of Pillsbury fine sandy loam, in an area of Pillsbury fine sandy loam, 0 to 5 percent slopes, very stony, in the town of Marlow, 2,000 feet southwest of NH 123 and 3,600 feet west of village of Marlow, in woodland:

Oi—1 inch to 0; leaf litter.

Oa—0 to 1 inch; black (5YR 2/1) well decomposed organic mat.

A—1 to 5 inches; dark brown (10YR 3/3) fine sandy loam; pale brown (10YR 6/3) dry; weak fine granular structure; very friable; many fine and common roots; 5 percent cobbles and gravel; strongly acid; abrupt smooth boundary.

E—5 to 8 inches; grayish brown (2.5Y 5/2) fine sandy loam; common medium distinct yellowish brown (10YR 5/6) and common medium prominent yellowish red (5YR 4/6) mottles; weak fine granular structure; friable; many fine and medium roots; 5 percent cobbles and gravel; strongly acid; abrupt wavy boundary.

Bw—8 to 14 inches; light olive brown (2.5Y 5/4) fine sandy loam; few medium prominent yellowish red (5YR 5/6), common medium distinct reddish brown (5YR 4/4), and common medium distinct gray (5Y 6/1) mottles; weak medium granular structure; friable; common fine roots; 5 percent cobbles and gravel; strongly acid; clear wavy boundary.

Bg—14 to 19 inches; light brownish gray (2.5Y 6/2) fine sandy loam; many medium distinct yellowish brown (10YR 5/6) and common medium distinct yellowish brown (10YR 5/8) mottles; weak medium granular structure; friable; common fine roots; 5 percent cobbles and gravel; strongly acid; abrupt wavy boundary.

Cd1—19 to 45 inches; olive brown (2.5Y 4/4) fine sandy loam; many medium distinct gray (5Y 5/1), common fine distinct light olive brown (2.5Y 5/6), and common medium distinct brown (7.5YR 4/2) mottles; very coarse prismatic structure parting to weak thick platy; firm; few fine roots; polygonal streaks, 0.25 to 0.5 inch thick, of gray (5Y 5/1) bordered by dark brown (7.5Y 4/4) and strong brown (7.5YR 5/8); 5 percent cobbles and gravel; strongly acid; clear wavy boundary.

Cd2—45 to 60 inches; dark grayish brown (2.5Y 4/2) and olive brown (2.5Y 4/4) fine sandy loam; common medium distinct gray (5Y 5/1) and common fine distinct light olive brown (2.5 5/6) mottles; weak thin platy structure; firm; 5 percent cobbles and gravel; moderately acid.

The solum ranges from 15 to 30 inches in thickness. Rock fragments range from 5 to 30 percent throughout. Reaction is very strongly acid or strongly acid to a depth of 30 inches and strongly acid or moderately acid below that depth.

The O horizon ranges from undecomposed forest litter to well decomposed organic material.

The A horizon has hue of 10YR, value of 2 or 3, and chroma of 1 to 3. Its texture is loam, fine sandy loam, sandy loam, or their gravelly analog.

The E horizon has hue of 10YR to 5Y, value of 4 to 6, and chroma of 1 or 2. Its texture is similar to that of the A horizon.

The B horizon has hue of 10YR to 5Y, value of 4 to 6, and chroma of 1 to 4. Its texture is loam, fine sandy loam, sandy loam, or their gravelly analog.

The Cd horizon has hue of 10YR to 5Y, value of 3 to 6, and chroma of 1 to 4. Its texture is fine sandy loam, sandy loam, or their gravelly analog. Its consistence is firm or very firm.

Pittstown Series

The Pittstown series consists of very deep, moderately well drained soils that formed in loamy material underlain by compacted glacial till. These soils are on broad, gently sloping crests or on lower, concave side slopes of smooth-sided, oval hills of glaciated uplands in the western part of the county. Slopes range from 3 to 15 percent.

Pittstown soils formed in the same kind of parent material as and are near well drained Bernardston soils and poorly drained Stissing soils. Pittstown soils are also near Dutchess soils. These soils have a firm and compacted substratum, and Dutchess soils have a friable substratum.

Typical pedon of Pittstown silt loam, 3 to 8 percent slopes, in the town of Chesterfield, about 150 yards west of NH 63 and 1,100 yards southwest of the village of Chesterfield, in a hayfield:

Ap—0 to 9 inches; very dark grayish brown (10YR 3/2) silt loam; moderate medium granular structure; friable; many fine roots; 10 percent rock fragments; moderately acid; abrupt smooth boundary.

Bw1—9 to 14 inches; dark yellowish brown (10YR 4/4) silt loam; weak fine subangular blocky structure parting to weak medium granular; very friable;

common fine roots; 10 percent rock fragments; moderately acid; clear wavy boundary.

Bw2—14 to 21 inches; light olive brown (2.5Y 5/4) channery silt loam; few fine distinct dark brown (7.5YR 4/4) and grayish brown (2.5Y 5/2) mottles; weak fine subangular blocky structure; friable; few fine roots; 15 percent rock fragments; moderately acid; abrupt wavy boundary.

Cd—21 to 60 inches; dark grayish brown (2.5Y 4/2) channery loam, common fine distinct dark brown (7.5YR 4/4) and olive gray (5Y 5/2) mottles; moderate thick platy structure; very firm; few, 0.5- to 1-inch, fracture faces, 12 inches apart with olive gray (5Y 5/2) matrix and dark brown (7.5YR 4/4) borders; many medium pores; many mineral stains; 20 percent rock fragments; moderately acid.

The solum ranges from 15 to 30 inches in thickness. Rock fragments range from 5 to 15 percent in the solum and from 15 to 30 percent in the substratum. Reaction ranges from very strongly acid to moderately acid, except where the soils have been limed.

The Ap horizon has hue of 10YR, value of 2 to 4, and chroma of 2 or 3. In undisturbed areas the A horizon has hue of 10YR, value of 2 or 3, and chroma of 1 to 3. Texture of the A or Ap horizon is silt loam.

The Bw1 horizon has hue of 7.5Y to 2.5Y, value of 4 or 5, and chroma of 3 to 6. The Bw2 horizon has hue of 2.5Y or 5Y, value of 4 or 5, and chroma of 3 or 4. Texture of the B horizon is silt loam or channery silt loam.

The Cd horizon has hue of 2.5Y or 5Y, value of 4 or 5, and chroma of 2 or 3. Its texture is silt loam, loam, or their channery analog. The horizon is firm or very firm.

Poocham Series

The Poocham series consists of very deep, well drained soils that formed in water-deposited silts and very fine sands. These soils are steep or very steep and on terrace escarpments and along deeply dissected drainageways. Slopes range from 25 to 70 percent.

Poocham soils formed in parent materials similar to that of and are near Unadilla, Scio, Raynham, Windsor, and Agawam soils. They have a thinner subsoil than Unadilla soils. They have more silt than Agawam and Windsor soils. Unlike Poocham soils, Scio soils are moderately well drained and Raynham soils are poorly drained.

Typical pedon of Poocham very fine sandy loam, 25 to 70 percent slopes, in the town of Chesterfield, 1,500 feet east of the Connecticut River and 1,000 feet north of the village of West Chesterfield, in woodland:

A—0 to 2 inches; very dark grayish brown (2.5Y 3/2) very fine sandy loam; weak fine granular structure; very friable; many fine and common medium roots; 2 percent pebbles, 2 percent channers; very strongly acid; clear wavy boundary.

Bw1—2 to 8 inches; dark grayish brown (2.5Y 4/2) and olive brown (2.5Y 4/4) very fine sandy loam; weak fine granular structure; very friable; many fine and common medium roots; 3 percent pebbles, 2 percent channers; very strongly acid; gradual wavy boundary.

Bw2—8 to 13 inches; olive brown (2.5Y 4/4) very fine sandy loam; weak medium granular structure; very friable; common fine sand and few medium roots; 3 percent pebbles, 2 percent channers; very strongly acid; clear wavy boundary.

C1—13 to 30 inches; olive (5Y 5/3) silt loam; massive; firm; few fine roots; very strongly acid; clear smooth boundary.

C2—30 to 55 inches; olive gray (5Y 4/2) silt loam; firm; few fine roots; strongly acid; clear smooth boundary.

C3—55 to 60 inches; olive (5Y 5/3) very fine sandy loam; massive; friable; moderately acid.

The solum ranges from 10 to 15 inches in thickness. Rock fragments, mostly gravel or channers, range from 0 to 5 percent throughout. Reaction ranges from very strongly acid to slightly acid throughout.

The A horizon has hue of 10YR or 2.5Y, value of 2 to 5, and chroma of 1 to 4. Its texture is silt loam or very fine sandy loam.

The Bw horizon has hue of 7.5YR to 2.5Y, value of 3 to 6, and chroma of 2 to 6. Its texture is silt loam or very fine sandy loam.

The C horizon has hue of 2.5Y or 5Y, value of 4 to 6, and chroma of 2 to 4. Its texture is very fine sandy loam, silt loam, or silt. Some pedons have thin or very thin strata of fine sand, very fine sand, loamy fine sand, loamy very fine sand, silty clay loam, or silty clay.

Pootatuck Series

The Pootatuck series consists of very deep, moderately well drained soils that formed in alluvial deposits. These soils are on flood plains. Slopes range from 0 to 3 percent.

Pootatuck soils formed in the same kind of parent material as and are near well drained Occum soils and poorly drained Rippowam soils. Pootatuck soils are also near Winooski, Limerick, Saco, and Suncook soils. Pootatuck soils have more sand and fine sand than Winooski soils. Limerick soils are poorly drained, and Saco soils are very poorly drained. Pootatuck soils have a loamy texture in the A and B horizons and Suncook soils are sandy throughout.

Typical pedon of Pootatuck fine sandy loam, in the town of Westmoreland, 450 feet north of NH 12 and 600 feet northeast of Mill Brook in the village of East Westmoreland, in an open field:

Ap—0 to 9 inches; dark grayish brown (10YR 4/2) fine sandy loam; moderate fine granular structure; very friable; many fine roots; moderately acid; abrupt smooth boundary.

Bw1—9 to 18 inches; dark yellowish brown (10YR 4/4) fine sandy loam; moderate fine subangular blocky structure; very friable; common fine roots; 5 percent gravel; moderately acid; clear wavy boundary.

Bw2—18 to 28 inches; dark yellowish brown (10YR 3/4) fine sandy loam; few medium distinct grayish brown (10YR 5/2) and few fine distinct yellowish brown (10YR 5/6) mottles; moderate fine subangular blocky structure; very friable; few fine roots; 5 percent gravel; moderately acid; abrupt wavy boundary.

C—28 to 60 inches; dark brown (10YR 4/3) very gravelly loamy sand; single grain; loose; 25 percent gravel, 15 percent cobbles; moderately acid.

The solum ranges from 20 to 40 inches in thickness. Rock fragments, mostly gravel, range from 0 to 15 percent, by volume, in the solum and from 0 to 40 percent in the substratum. In the substratum they include as much as 15 percent cobbles. Reaction ranges from strongly acid to slightly acid throughout.

The A, or Ap, horizon has hue of 10YR, value of 3 or 4, and chroma of 2 to 4. Its texture is fine sandy loam or sandy loam.

The B horizon has hue of 10YR or 2.5Y, and value and chroma of 3 to 6. Its texture is fine sandy loam or sandy loam.

The C horizon has hue of 10YR to 5Y, value of 4 to 6, and chroma of 2 to 4. Its texture ranges from loamy fine sand to coarse sand and their gravelly or very gravelly analog.

Raynham Series

The Raynham series consists of very deep, poorly drained soils that formed in loamy, glacial lacustrine sediments. These soils are on lake plains and stream terraces. Slopes range from 0 to 3 percent.

Raynham soils formed in the same kind of parent material as and are near well drained Unadilla soils and moderately well drained Scio soils. Raynham soils are also near Wareham soils and have more silt and very fine sand than these other soils.

Typical pedon of Raynham silt loam, in an area of Raynham-Wareham complex, occasionally flooded, in the city of Keene, 1,500 feet east of NH 10 and 2,000 feet north of Swanzey townline, in an open area:

Ap—0 to 11 inches; very dark grayish brown (10YR 3/2) silt loam, pale brown (10YR 6/3) dry; weak fine granular structure; friable; common fine roots; neutral; abrupt smooth boundary.

Bg—11 to 15 inches; dark grayish brown (2.5Y 4/2) silt loam; few fine and coarse distinct olive gray (5Y 5/2), common medium distinct yellowish brown (10YR 5/6) mottles; moderate medium subangular blocky structure; friable; common fine roots; neutral; gradual wavy boundary.

Bw—15 to 25 inches; light olive brown (2.5Y 5/4) silt loam; common medium distinct yellowish brown (10YR 5/8) and common fine faint grayish brown (2.5Y 5/2) mottles; moderate medium subangular blocky structure; friable; few fine roots; moderately acid; clear smooth boundary.

Cg—25 to 60 inches; dark grayish brown (2.5Y 4/2) very fine sandy loam; many medium distinct yellowish brown (10YR 5/6) and common medium distinct dark yellowish brown (10YR 4/4) mottles; massive; slightly firm; moderately acid.

The solum ranges from 18 to 36 inches in thickness. Rock fragments, dominantly gravel, range from 0 to 2 percent. Reaction ranges from strongly acid to neutral in the solum and from moderately acid to neutral in the substratum.

The Ap horizon has hue of 10YR or 2.5Y, value of 2 to 4, and chroma of 1 to 3. Its texture is silt loam or very fine sandy loam.

The B horizon has hue of 10YR to 5Y, value of 4 to 6, and chroma of 2 to 4. Mottles are distinct or prominent. Texture of the horizon is silt loam or very fine sandy loam.

The C horizon has hue of 10YR to 5Y, value of 4 to 6, and chroma of 1 to 3. Its texture is silt loam or very fine sandy loam. Some pedons have thin strata that range from silt to fine sand.

Rippowam Series

The Rippowam series consists of very deep, poorly drained soils that formed in alluvial deposits. These soils are on flood plains. Slopes range from 0 to 3 percent.

Rippowam soils formed in the same parent material as and are near well drained Occum soils and moderately well drained Pootatuck soils. They are also closely associated with Limerick and Saco soils. Unlike Rippowam soils, Saco soils are very poorly drained. Rippowam soils have more sand than Limerick soils.

Typical pedon of Rippowam fine sandy loam, in the town of Surry, 200 yards east of NH 12A, 30 feet west of dirt road, 1,200 yards north of Surry Village within the Surry Mountain Dam Flood Pool, in an idle field:

Ap1—0 to 6 inches; very dark grayish brown (10YR 3/2) fine sandy loam; moderate medium granular structure; friable; many medium and fine roots; moderately acid; abrupt wavy boundary.

Ap2—6 to 9 inches; dark grayish brown (2.5Y 4/2) fine sandy loam; many medium prominent yellowish red (5YR 4/6) mottles; moderate medium granular

structure; friable; common fine roots; moderately acid; abrupt smooth boundary.

C—9 to 15 inches; olive brown (2.5Y 4/4) fine sandy loam; common medium prominent dark red (2.5YR 3/6) and common medium distinct gray (5Y 5/1) mottles; massive; friable; common fine roots; moderately acid; gradual wavy boundary.

Cg1—15 to 25 inches; dark grayish brown (2.5Y 4/2) fine sandy loam; many medium distinct olive brown (2.5Y 4/4) mottles; massive; friable; few fine roots; strongly acid; abrupt smooth boundary.

Cg2—25 to 30 inches; olive gray (5Y 4/2) sandy loam; massive; friable; 5 percent gravel; moderately acid; abrupt smooth boundary.

Cg3—30 to 60 inches; dark grayish brown (2.5Y 4/2) very gravelly sand; single grain; loose; 35 percent fine gravel; strongly acid.

Depth to the sandy subhorizon in the substratum ranges from 20 to 40 inches. Rock fragments, dominantly gravel, range from 0 to 15 percent, by volume, in the surface layer and the loamy subhorizons in the substratum and from 0 to 40 percent in the sandy subhorizon in the substratum. Reaction ranges from strongly acid to slightly acid.

The A, or Ap, horizon has hue of 10YR or 2.5Y, value of 2 to 4, and chroma of 1 or 2. Its texture is fine sandy loam or sandy loam.

The C horizon has hue of 10YR to 5Y, value of 3 to 5, and chroma of 1 to 4. Its texture in the upper part is fine sandy loam or sandy loam. Its texture in the lower part ranges from loamy fine sand to coarse sand and their gravelly or very gravelly analog.

Saco Series

The Saco series consists of very deep, very poorly drained soils that formed in loamy alluvial deposits. These soils are on flood plains. Slopes range from 0 to 2 percent.

Saco soils formed in the same kind of parent material as and are near well drained Hadley soils, moderately well drained Winooski soils, and poorly drained Limerick soils. Saco soils are also near poorly drained Rippowam soils.

Typical pedon of Saco mucky silt loam, in the town of Swanzey, 350 feet west of NH 32, 1 mile east of Swanzey Lake, and 50 feet west of Martin Brook, in an open marsh:

A1—0 to 5 inches; very dark gray (10YR 3/1) mucky silt loam; weak fine granular structure; friable, slightly sticky, plastic; many fine and common medium roots; strongly acid; clear wavy boundary.

A2—5 to 12 inches; very dark grayish brown (2.5Y 3/2) silt loam; moderate fine granular structure; friable, slightly sticky, plastic; common fine roots; strongly acid; abrupt smooth boundary.

Cg1—12 to 19 inches; gray (N 5/0) silt loam; massive; slightly firm; slightly sticky, plastic; few fine roots; slightly acid; clear smooth boundary.

Cg2—19 to 60 inches; dark gray (5Y 4/1) silt loam; few medium prominent yellowish brown (10YR 5/8) mottles; massive; slightly firm, slightly sticky, plastic; few fine roots; slightly acid; clear wavy boundary.

Texture is silt loam or very fine sandy loam to a depth of 40 inches. It ranges from silt loam to very gravelly sand below that depth. Reaction ranges from slightly acid to strongly acid to a depth of 30 inches and from moderately acid to neutral below that depth.

The A horizon has hue of 10YR or 2.5Y, value of 2 or 3, and chroma of 1 or 2. Its texture is mucky silt loam or silt loam.

The C horizon is neutral or has hue of 10YR to 5Y, value of 3 to 6, and chroma of 0 or 1.

Scio Series

The Scio series consists of very deep, moderately well drained soils that formed in loamy, water-deposited materials. These soils are on stream terraces and within glacial lake basins. Slopes range from 0 to 8 percent.

Scio soils formed in the same kind of parent material as and are near well drained Unadilla soils and poorly drained Raynham soils. Scio soils are also near Agawam, Ninigret, and Haven soils. Unlike Scio soils, Agawam and Haven soils are well drained. Scio soils have more silt and very fine sand in the substratum than Ninigret soils.

Typical pedon of Scio very fine sandy loam, 3 to 8 percent slopes, in the town of Hinsdale, 600 feet west of NH 63, 180 feet east of the Connecticut River and 1.8 miles northwest of the Massachusetts state line, in a hayfield:

Ap—0 to 10 inches; dark grayish brown (10YR 4/2) very fine sandy loam; weak fine granular structure; friable; many fine roots; strongly acid; abrupt smooth boundary.

Bw1—10 to 18 inches; light olive brown (2.5Y 5/4) very fine sandy loam; weak medium subangular blocky structure; friable; common fine roots; moderately acid; gradual smooth boundary.

Bw2—18 to 35 inches; light olive brown (2.5Y 5/4) very fine sandy loam; common fine distinct light olive gray (5Y 6/2) and few fine distinct light brownish gray (10YR 6/2) mottles; weak medium subangular blocky structure; friable; few fine roots; moderately acid; gradual smooth boundary.

C1—35 to 56 inches; olive (5Y 5/4) very fine sandy loam, common fine distinct light olive gray (5Y 6/2) and common fine distinct yellowish brown (10YR 5/6) mottles; massive; friable; few fine roots; moderately acid; clear smooth boundary.

C2—56 to 60 inches; olive (5Y 5/3) very fine sandy loam; common fine prominent strong brown (7.5YR 5/6) and many fine faint light olive gray (5Y 6/2) mottles; massive; friable; few fine roots; slightly acid.

The solum ranges from 20 to 36 inches in thickness. Rock fragments, dominantly gravel, range from 0 to 5 percent above a depth of 40 inches and from 0 to 10 percent below that depth. Reaction is strongly acid or moderately acid above a depth of 40 inches and ranges from moderately acid to neutral below that depth.

The Ap horizon has hue of 10YR, value of 3 or 4, and chroma of 2 or 3. Its texture is silt loam or very fine sandy loam.

The B horizon has hue of 10YR to 5Y, value of 4 or 5, and chroma of 3 to 6. Its texture is silt loam or very fine sandy loam.

The C horizon has hue of 2.5Y or 5Y, value of 4 to 6, and chroma of 1 to 4. Its texture ranges from silt loam to fine sand.

Searsport Series

The Searsport series consists of very deep, very poorly drained soils that formed in water-deposited sands. These soils are in depressions on glacial outwash plains and stream terraces. Slopes range from 0 to 3 percent.

Searsport soils formed in the same kind of parent material as and are near well drained Adams soils, moderately well drained Croghan soils, and poorly drained to somewhat poorly drained Naumburg soils. They are also near Windsor, Caesar, Colton, and Chocorua soils. Windsor, Caesar, and Colton soils are excessively drained. Searsport soils formed in mineral material and have an organic surface layer less than 16 inches thick. Unlike Searsport soils, Chocorua soils formed in organic material 16 to 50 inches thick overlying sandy material.

Typical pedon of Searsport mucky peat, in the town of Fitzwilliam, 750 yards south of NH 119 and 300 yards east of Kemp Brook, in woodland:

Oe—0 to 3 inches; black (5YR 2/1) mucky peat; weak medium granular structure; wet, slightly sticky and slightly plastic; many fine and common medium roots; very strongly acid; gradual wavy boundary.

Oa—3 to 12 inches; very dark gray (5YR 3/1) muck; weak medium granular structure; wet, slightly sticky and slightly plastic; common fine roots; very strongly acid; abrupt smooth boundary.

Cg1—12 to 20 inches; grayish brown (2.5Y 5/2) sand; common coarse faint dark grayish brown (2.5Y 4/2) mottles; single grain; loose; wet, nonsticky and nonplastic; 2 percent fine gravel; very strongly acid; clear smooth boundary.

Cg2—20 to 34 inches; light brownish gray (2.5Y 6/2) sand; few medium distinct light olive brown (2.5Y 5/4) mottles; single grain; loose; wet, nonsticky and nonplastic; 2 percent fine gravel; very strongly acid; clear smooth boundary.

C1—34 to 46 inches; variegated, olive gray (5Y 5/2) and olive (5Y 5/3) coarse sand; single grain; loose; wet, nonsticky and nonplastic; 10 percent fine gravel; strongly acid; gradual smooth boundary.

C2—46 to 60 inches; variegated, light brownish gray (2.5Y 6/2) and light yellowish brown (2.5Y 6/4) coarse sand; single grain; loose; wet, nonsticky and nonplastic; 10 percent fine gravel; strongly acid.

The O horizon ranges from 8 to 16 inches in thickness. Rock fragments, dominantly gravel, range from 0 to 10 percent. Reaction ranges from very strongly acid to moderately acid throughout.

The O horizon has hue of 5YR to 10YR, value of 2 or 3, and chroma of 0 to 2. Its texture is mucky peat or muck.

Some pedons have an A horizon that has hue of 7.5YR or 10YR, value of 2 to 4, and chroma of 1 or 2. Its texture ranges from fine sandy loam to sand and their mucky analog.

The C horizon has hue of 10YR to 5Y, value of 4 to 6, and chroma of 0 to 2. Its texture is loamy sand, fine sand, sand, or coarse sand.

Sheepscot Series

The Sheepscot series consists of very deep, moderately well drained soils that formed in water-deposited sands and gravel. These soils are on glacial outwash plains and terraces. Slopes range from 0 to 5 percent.

Sheepscot soils formed in the same kind of parent material as and are near excessively drained Colton soils and poorly drained to somewhat poorly drained Moosilauke soils. They are also near Adams, Croghan, Naumburg, Searsport, and Merrimac soils. Adams soils are excessively drained, and Merrimac soils are somewhat excessively drained. Sheepscot soils have gravel, but Croghan soils are dominantly sandy soils and do not have gravel. Naumburg soils are poorly drained or somewhat poorly drained, and Searsport soils are very poorly drained.

Typical pedon of Sheepscot sandy loam, 0 to 5 percent slopes, in the town of Fitzwilliam, 1.8 miles north of NH 119, 1,300 feet southwest of Rockwood Pond, and 100 feet west of dirt road in Rhododendron State Park, in woodland:

Oi—2 inches to 0; leaf litter and partly decomposed organic mat.

Oa—0 to 2 inches; black (5YR 2/1) well decomposed organic mat.

E—2 to 5 inches; reddish gray (5YR 5/2) sandy loam; weak fine granular structure; very friable; few

coarse, common medium, and many fine roots; 5 percent gravel, 5 percent cobbles; very strongly acid; clear wavy boundary.

Bhs—5 to 13 inches; dark reddish brown (5YR 3/3) gravelly fine sandy loam; weak fine granular structure; very friable; few coarse, few medium, and many fine roots; 15 percent gravel, 5 percent cobbles; very strongly acid; clear irregular boundary.

Bs—13 to 22 inches; reddish brown (5YR 4/4) and yellowish red (5YR 4/6) very gravelly sand; single grain; loose; few coarse, few medium, and common fine roots; 40 percent gravel, 10 percent cobbles; very strongly acid; gradual wavy boundary.

BC—22 to 32 inches; yellowish brown (10YR 5/8) very gravelly sand; common medium faint strong brown (7.5YR 4/6) mottles; single grain; loose; few coarse and few fine roots; 40 percent gravel, 10 percent cobbles; strongly acid; abrupt smooth boundary.

C1—32 to 38 inches; brownish yellow (10YR 6/6) gravelly sand; common medium distinct strong brown (7.5YR 5/8) mottles; single grain; loose; 10 percent gravel, 5 percent cobbles; very strongly acid; abrupt smooth boundary.

C2—38 to 60 inches; dark yellowish brown (10YR 4/6) and brownish yellow (10YR 6/6) very gravelly sand and coarse sand; common coarse prominent yellowish red (5YR 5/8) mottles; single grain; loose; 40 percent gravel; 10 percent cobbles; strongly acid.

The solum ranges from 18 to 30 inches in thickness. Rock fragments range from 5 to 50 percent, by volume, in the upper part of the solum and from 35 to 70 percent in the lower part of the solum and in the substratum. Reaction ranges from very strongly acid to moderately acid throughout.

The Oa horizon has hue of 2.5YR to 10YR, value of 2, and chroma of 1 or 2.

Some pedons have an A horizon that has hue of 7.5YR or 10YR, value of 2 or 3, and chroma of 1 or 2. Its texture is fine sandy loam, sandy loam, or their gravelly or very gravelly analog.

The E horizon has hue of 5YR to 10YR, value of 5 to 7, and chroma of 1 or 2. Its texture is fine sandy loam, sandy loam, or their gravelly or very gravelly analog.

The Bhs horizon has hue of 2.5YR or 5YR and value and chroma of 2 or 3. Its texture is fine sandy loam, sandy loam, or their gravelly or very gravelly analog.

The Bs horizon has hue of 5YR to 7.5YR, value of 3 to 5, and chroma of 4 to 6. Its texture ranges from loamy fine sand to sand and their gravelly or very gravelly analog.

The BC horizon has hue of 10YR or 2.5Y, value of 4 to 6, and chroma of 4 to 8. Its texture is loamy sand, sand, or their gravelly, very gravelly, or extremely gravelly analog.

The C horizon has hue of 10YR or 2.5Y, value of 4 to 6, and chroma of 2 to 6. Its texture is sand, coarse sand, or their gravelly, very gravelly, or extremely gravelly analog.

Skerry Series

The Skerry series consists of very deep, moderately well drained soils that formed in loamy material underlain by compacted glacial till. These soils are on broad, gently sloping crests or in lower slope positions of smooth-sided, oval hills of glaciated uplands. Slopes range from 3 to 15 percent.

Skerry soils formed in the same kind of parent material as and are near well drained Becket soils. Skerry soils are also near Marlow, Peru, Sunapee, Pillsbury, and Lyme soils. Unlike Skerry soils, Marlow soils are well drained, Pillsbury soils are poorly drained or somewhat poorly drained, and Lyme soils are poorly drained. Skerry soils have a compacted substratum, and Sunapee soils have a friable substratum. Skerry soils have more sand in the substratum than Peru soils.

Typical pedon of Skerry fine sandy loam, in an area of Skerry fine sandy loam, 8 to 15 percent slopes, very stony, in the town of Rindge, 1 mile east of Damon Reservoir, 100 feet east of road, 200 yards south of power line, 2 miles north of Massachusetts state line, in woodland:

Oi—2 inches to 0; leaf litter and pine needles.

A—0 to 1 inch; black (10YR 2/1) fine sandy loam; weak fine granular structure; very friable; many fine and few medium roots; 5 percent gravel; very strongly acid; abrupt wavy boundary.

Bs1—1 to 15 inches; 70 percent dark brown (7.5YR 4/4) and 30 percent dark yellowish brown (10YR 4/4) fine sandy loam; weak fine granular structure; friable; few fine and medium roots; 5 percent gravel; very strongly acid; clear wavy boundary.

Bs2—15 to 19 inches; yellowish brown (10YR 5/6) fine sandy loam; few fine distinct brownish yellow (10YR 6/8) mottles; weak medium granular structure; friable; few fine and medium roots; 5 percent gravel; very strongly acid; abrupt smooth boundary.

Cd1—19 to 24 inches; olive yellow (2.5Y 6/6) gravelly loamy sand; common medium prominent yellowish red (5YR 4/8) and strong brown (7.5YR 5/6) mottles; massive; firm; 15 percent gravel; lenses and pockets, 0.5- to 1-inch of olive (5Y 5/3) sandy loam; strongly acid; clear wavy boundary.

Cd2—24 to 60 inches; pale olive (5Y 6/3) gravelly loamy sand; few medium prominent yellowish red (5YR 4/8) and common medium distinct brownish yellow (10YR 6/8) mottles; massive; firm; 25 percent gravel and 5 percent cobbles; lenses and pockets, 0.5 to 2 inches thick, of olive (5Y 5/3) sandy loam; strongly acid.

The solum ranges from 15 to 36 inches in thickness. Rock fragments range from 5 to 20 percent in the solum and from 10 to 30 percent in the substratum. Distinct or prominent mottles are in the lower part of the B horizon. Reaction ranges from very strongly acid to moderately acid throughout.

The Ap horizon has hue of 10YR, value of 3 or 4, and chroma of 2 to 4. In undisturbed pedons the A horizon has hue of 10YR, value of 2 or 3, and chroma of 1 or 2. Texture of the Ap or A horizon is fine sandy loam, sandy loam, or their gravelly analog.

The B horizon has hue of 5YR to 10YR, value of 2 to 6, and chroma of 3 to 8. Its texture is fine sandy loam, sandy loam, or their gravelly analog.

The Cd horizon has hue of 2.5Y or 5Y, value of 4 to 6, and chroma of 2 to 6. Its texture is dominantly gravelly loamy sand, but includes loamy sand, sandy loam, gravelly sandy loam, loamy fine sand, and gravelly loamy sand. Its consistence is firm or very firm.

Stissing Series

The Stissing series consists of very deep, poorly drained soils that formed in loamy material underlain by compacted glacial till. These soils are in depressional areas, along drainageways, and on concave foot slopes of glaciated uplands in the western part of the county. Slopes range from 0 to 5 percent.

Stissing soils formed in the same kind of parent material as and are near well drained Bernardston soils and moderately well drained Pittstown soils. Stissing soils are also near Dutchess soils. Unlike Stissing soils, Dutchess soils are well drained.

Typical pedon of Stissing silt loam, 0 to 5 percent slopes, in the town of Marlow, 400 feet north of Bakers Corner and 200 feet west of dirt road, in woodland:

Ap—0 to 8 inches; very dark gray (10YR 3/1) silt loam; moderate medium granular structure; friable; common fine roots; 10 percent rock fragments; strongly acid; abrupt smooth boundary.

Bg—8 to 20 inches; gray (5Y 5/1) loam; many fine prominent yellowish brown (10YR 5/6) and dark brown (10YR 4/3) mottles; weak fine and medium subangular blocky structure; friable; few fine roots; 10 percent rock fragments; strongly acid; clear wavy boundary.

Cd—20 to 60 inches; dark grayish brown (2.5Y 4/2) gravelly silt loam; many medium distinct gray (5Y 5/1) and common fine prominent yellowish brown (10YR 5/6) mottles; weak thin and thick platy structure; firm; few fine roots; 20 percent rock fragments; strongly acid.

The solum ranges from 15 to 25 inches in thickness. Rock fragments range from 5 to 20 percent in the solum and from 15 to 30 percent in the substratum. Reaction is very strongly acid or strongly acid.

The A horizon has hue of 10YR or 2.5Y, value of 2 to 4, and chroma of 1 or 2. Its texture is silt loam or loam.

The B horizon has hue of 10YR to 5Y, value of 4 or 5, and chroma of 1 to 2. Its texture is silt loam, loam, or their gravelly analog.

The Cd horizon has hue of 2.5Y, value of 4 to 6, and chroma of 1 to 3. Its texture is silt loam or loam, or their gravelly analog. Its consistence is firm or very firm.

Sunapee Series

The Sunapee series consists of very deep, moderately well drained soils that formed in loamy glacial till. These soils are on foot slopes or along drainageways of glaciated uplands. Slopes range from 3 to 15 percent.

Sunapee soils formed in the same kind of parent material as and are near well drained Berkshire and Monadnock soils and poorly drained Lyme soil. Sunapee soils are also near Peru, Marlow, Becket, Moosilauke, and Skerry soils. Sunapee soils have a friable substratum, but Peru, Marlow, Becket, and Skerry soils have a firm, compacted substratum. Unlike Sunapee soils, Moosilauke soils are poorly drained or somewhat poorly drained.

Typical pedon of Sunapee fine sandy loam, in an area of Sunapee fine sandy loam, 8 to 15 percent slopes, very stony, in the town of Stoddard, 250 feet east of Highland Lake, 2 miles north of Stoddard Village, and 25 feet west of road, in woodland:

Oi—2 inches to 0; partly decomposed organic mat.

A—0 to 3 inches; very dark grayish brown (10YR 3/2) fine sandy loam; weak fine granular structure; very friable; many fine and common medium roots; 5 percent gravel; very strongly acid; abrupt smooth boundary.

Bs1—3 to 7 inches; dark reddish brown (5YR 3/4) fine sandy loam; weak fine granular structure; very friable; many fine and few medium roots; 5 percent gravel; very strongly acid; clear wavy boundary.

Bs2—7 to 15 inches; dark brown (7.5YR 4/4) fine sandy loam; weak fine granular structure; very friable; common fine and few medium roots; 5 percent gravel; very strongly acid; clear wavy boundary.

Bs3—15 to 25 inches; yellowish brown (10YR 5/4) fine sandy loam; few fine distinct grayish brown (2.5Y 5/2) and common medium distinct dark brown (7.5YR 4/4) mottles; weak fine granular structure; friable; common fine roots; 5 percent gravel, 5 percent cobbles; very strongly acid; abrupt wavy boundary.

C1—25 to 30 inches; light yellowish brown (2.5Y 6/4) sandy loam; common medium prominent reddish yellow (7.5YR 6/8) mottles; massive; friable; few fine roots; 10 percent gravel; strongly acid; gradual wavy boundary.

C2—30 to 60 inches; olive (5Y 5/3) sandy loam; few medium prominent reddish yellow (7.5YR 6/8) and yellowish red (5YR 5/8) mottles; massive; friable; 10 percent gravel; strongly acid.

The solum ranges from 18 to 36 inches in thickness. Rock fragments range from 5 to 30 percent throughout. Reaction is very strongly acid or strongly acid in the solum and ranges from very strongly acid to moderately acid in the C horizon. Depth to distinct or prominent mottles ranges from 14 to 26 inches.

The A horizon has hue of 10YR, value of 2 or 3, and chroma of 1 or 2. Some pedons have an Ap horizon that has hue of 10YR, and value and chroma of 2 to 4. Its texture is fine sandy loam or loam.

The B horizon in the upper part has hue of 5YR to 10YR, value of 3 to 5, and chroma of 3 to 8. In the lower part it has hue of 7.5YR to 2.5Y, value of 4 or 5, and chroma of 3 to 6. Texture of the B horizon is fine sandy loam, sandy loam, or their gravelly analog.

The C horizon has hue of 10YR to 5Y, value of 4 to 6, and chroma of 2 to 4. Its texture is fine sandy loam, sandy loam, or their gravelly analog.

Suncook Series

The Suncook series consists of very deep, excessively drained soils that formed in sandy alluvial deposits. These soils are on flood plains. Slopes range from 0 to 3 percent.

Suncook soils are near Occum, Pootatuck, and Rippowam soils. They have more sand in the solum than these other soils.

Typical pedon of Suncook loamy fine sand, in the city of Keene, 150 feet east of the Ashuelot River, 200 feet east of bend in NH 12, 1.5 miles north of intersection of NH 12 and NH 9, near end of dirt road in Ashuelot Park, in woodland:

Oi—1 inch to 0; loose litter and pine needles.

A—0 to 2 inches; very dark gray (10YR 3/1) loamy fine sand; weak fine granular structure; very friable; many fine roots; very strongly acid; abrupt wavy boundary.

C—2 to 4 inches; olive brown (2.5Y 4/4) fine sand; massive; very friable; many fine roots; strongly acid; abrupt wavy boundary.

Ab—4 to 8 inches; very dark grayish brown (2.5Y 3/2) loamy fine sand; weak medium granular structure; very friable; many fine roots; strongly acid; abrupt wavy boundary.

C1—8 to 15 inches; light olive brown (2.5Y 5/4) fine sand; massive; very friable; common medium roots; patches of brown (10YR 4/3) loamy fine sand; strongly acid; abrupt wavy boundary.

C2—15 to 18 inches; grayish brown (2.5Y 5/2) fine sand; massive; very friable; common medium roots; strongly acid; abrupt wavy boundary.

C3—18 to 26 inches; light brownish gray (2.5Y 6/2) sand; single grain; loose; common medium roots; moderately acid; abrupt wavy boundary.

C4—26 to 56 inches; light olive brown (2.5Y 5/4) fine sand; massive; very friable; few medium roots; moderately acid; abrupt wavy boundary.

C5—56 to 60 inches; dark grayish brown (2.5Y 4/2) loamy fine sand; massive; friable; few medium roots; moderately acid.

Most pedons essentially do not have rock fragments. However, rock fragments, dominantly gravel, range from 0 to 10 percent to a depth of 20 inches and 0 to 20 percent below that depth. Reaction ranges from very strongly acid to slightly acid throughout.

The A, or Ap, horizon has hue of 10YR or 2.5Y, value of 3 or 4, and chroma of 1 to 3. Its texture ranges from loamy sand to fine sandy loam. Some pedons have a buried, sandy A horizon.

The C horizon has hue of 10YR to 2.5Y, value of 4 to 6, and chroma of 2 to 4. Its texture ranges from loamy fine sand to sand and their gravelly analog.

Tunbridge Series

The Tunbridge series consists of moderately deep, well drained soils that formed in loamy glacial till. These soils are underlain by gneiss and schist bedrock at a depth of 20 to 40 inches. They are on uplands, generally on the tops of hills and mountains. Slopes range from 3 to 50 percent.

Tunbridge soils formed in the same kind of parent material as and are near Lyman, Monadnock, and Berkshire soils. Tunbridge soils are moderately deep to bedrock, Lyman soils are shallow to bedrock, and Berkshire and Monadnock soils are very deep to bedrock.

Typical pedon of Tunbridge fine sandy loam, in an area of Tunbridge-Berkshire complex, 8 to 15 percent slopes, very stony, in the town of Fitzwilliam, 100 yards south of NH 119 and 0.75 mile east of the Richmond town line, in woodland:

A—0 to 4 inches; black (10YR 2/1) fine sandy loam; weak fine granular structure; very friable; many fine and few medium roots; 5 percent gravel, 5 percent cobbles; very strongly acid; abrupt wavy boundary.

Bs1—4 to 7 inches; yellowish red (5YR 5/8) fine sandy loam; weak fine granular structure; very friable; common fine and few medium roots; 7 percent gravel, 7 percent cobbles; very strongly acid; clear wavy boundary.

Bs2—7 to 12 inches; strong brown (7.5YR 5/8) gravelly fine sandy loam; weak fine granular structure; very friable; few fine and medium roots; 10 percent gravel, 10 percent cobbles; strongly acid; clear wavy boundary.

Bw—12 to 21 inches; yellowish brown (10YR 5/8) gravelly fine sandy loam; weak fine granular structure; very friable; few fine roots; 10 percent gravel, 10 percent cobbles; very strongly acid; clear wavy boundary.

BC—21 to 26 inches; brownish yellow (10YR 6/6) gravelly fine sandy loam; weak fine granular structure; very friable; few fine roots; 20 percent gravel, 10 percent cobbles; very strongly acid; abrupt wavy boundary.

R—26 inches; mica schist bedrock.

The solum ranges from 14 to 38 inches in thickness. Depth to bedrock ranges from 20 to 40 inches. Rock fragments range from 5 to 30 percent throughout. Reaction ranges from extremely acid to moderately acid in the solum and is strongly acid or moderately acid in the substratum.

The A horizon has hue of 10YR or 7.5YR, value of 2 to 4, and chroma of 1 to 3. Its texture is fine sandy loam or loam, or their gravelly analog.

The B horizon in the upper part has hue of 5YR or 7.5YR, value of 4 or 5, and chroma of 4 to 8. In the lower part it has hue of 7.5YR to 2.5Y, value of 3 to 6, and chroma of 3 to 8. Texture of the horizon is fine sandy loam or gravelly fine sandy loam.

Some pedons have a C horizon that has hue of 10YR to 5Y, value of 4 or 5, and chroma of 2 to 4. Its texture is fine sandy loam or gravelly fine sandy loam.

Udorthents

Udorthents consist of very deep, well drained soils that formed in sandy or loamy fill material. Slopes range from 0 to 15 percent, but generally are 0 to 3 percent.

Depth to buried soil horizons is more than 40 inches. No identifiable fragments of diagnostic horizons are within a depth of 40 inches. Texture to a depth of 40 inches ranges from fine sandy loam to gravelly coarse sand. Rock fragments range from 0 to 34 percent, by volume, in all horizons. Reaction ranges from strongly acid to slightly acid throughout.

Unadilla Series

The Unadilla series consists of very deep, well drained soils that formed in loamy, water-deposited sediments. These soils are on stream terraces and in glacial lake basins. Slopes range from 0 to 15 percent.

Unadilla soils formed in the same kind of parent material as and are near moderately well drained Scio soils and poorly drained Raynham soils. These soils are also near Agawam, Ninigret, Haven, Poocham, and Windsor soils. These soils have more silt and very fine sand in the C horizon than Agawam, Ninigret, Haven, and Windsor soils. They have a thicker solum than Poocham soils.

Typical pedon of Unadilla very fine sandy loam, 3 to 8 percent slopes, in the town of Chesterfield, 1,400 feet north of the village of West Chesterfield, 1,800 feet east of the Connecticut River, 30 feet east of the steep escarpment, in a limed hayfield:

Ap—0 to 8 inches; dark brown (10YR 4/3) very fine sandy loam; weak fine granular structure; very friable; many fine roots; neutral; abrupt smooth boundary.

Bw1—8 to 10 inches; yellowish brown (10YR 5/6) very fine sandy loam; weak fine subangular blocky structure; very friable; common fine roots; neutral; clear wavy boundary.

Bw2—10 to 20 inches; light olive brown (2.5Y 5/4) very fine sandy loam; weak medium subangular blocky structure; friable; common fine roots; neutral; clear wavy boundary.

C1—20 to 35 inches; olive (5Y 5/3) very fine sandy loam; dark yellowish brown (10YR 4/4) stains; weak medium subangular blocky structure; friable; few fine roots; dark yellowish brown (10YR 4/4) stains; neutral; abrupt smooth boundary.

C2—35 to 60 inches; olive (5Y 5/3) loamy very fine sand; few medium distinct grayish brown (2.5Y 5/2) and few fine distinct dark yellowish brown (10YR 4/4) mottles; massive; friable; few fine roots; 4 lamellae of dark yellowish brown (10YR 4/4) very fine sandy loam, 0.25 to 1 inch thick; slightly acid.

The solum ranges from 20 to 40 inches in thickness. Rock fragments range from 0 to 5 percent throughout. Unless the soils have been limed, reaction is strongly acid or moderately acid in the solum and ranges from strongly acid to neutral in the substratum.

The Ap horizon has hue of 10YR or 2.5Y, value of 3 to 5, and chroma of 2 to 4. Its texture is silt loam or very fine sandy loam.

The B horizon has hue of 7.5YR to 2.5Y, and value and chroma of 4 to 6. Its texture is silt loam or very fine sandy loam.

The C horizon has hue of 10YR to 5Y, value of 4 or 5, and chroma of 2 to 4. Its texture is silt loam or very fine sandy loam above a depth of 40 inches, and ranges from silt loam to fine sand below that depth.

Wareham Series

The Wareham series consists of very deep, poorly drained or somewhat poorly drained soils that formed in water-deposited sands. These soils are in depressions on glacial outwash plains and old glacial lake basins. Slopes range from 0 to 3 percent.

Wareham soils formed in the same kind of parent material as and are near excessively drained Windsor and Caesar soils and moderately well drained Croghan soils. Wareham soils are also near Raynham soils. They

have sand and fine sand throughout, and Raynham soils have silt and very fine sand throughout.

Typical pedon of Wareham loamy fine sand, in an area of Raynham-Wareham complex, occasionally flooded, in the city of Keene, 500 feet northeast of the intersection of NH 9 and NH 12, in a cornfield:

Ap—0 to 9 inches; very dark grayish brown (2.5Y 3/2) loamy fine sand, grayish brown (2.5Y 5/2) dry; weak fine granular structure; very friable; common fine roots; strongly acid; abrupt smooth boundary.

Bg—9 to 18 inches; grayish brown (2.5Y 5/2) loamy fine sand; common medium distinct yellowish brown (10YR 5/6) and few medium distinct dark gray (5Y 4/1) mottles; massive; friable; few fine roots; strongly acid; clear wavy boundary.

C1—18 to 38 inches; grayish brown (2.5Y 5/2) sand; common medium distinct yellowish brown (10YR 5/6) and few medium distinct gray (5Y 5/1) mottles; single grain; loose; strongly acid; clear wavy boundary.

C2—38 to 54 inches; olive gray (5Y 5/2) sand; single grain; loose; strongly acid; gradual wavy boundary.

C3—54 to 60 inches; dark grayish brown (2.5Y 4/2) sand; single grain; loose; very strongly acid.

Rock fragments, dominantly gravel, range from 0 to 5 percent throughout. Reaction is very strongly acid or strongly acid throughout.

The Ap horizon has hue of 10YR or 2.5Y, value of 2 or 3, and chroma of 1 or 2. Its texture is loamy fine sand, loamy sand, fine sand, or sand.

The B horizon has hue of 10YR or 2.5Y, value of 4 to 6, and chroma of 1 to 4. Its texture is loamy fine sand or loamy sand.

The C horizon has hue of 10YR to 5Y, value of 4 to 6, and chroma of 1 to 3. Its texture is loamy fine sand, loamy sand, fine sand, or sand.

Windsor Series

The Windsor series consists of very deep, excessively drained soils that formed in sandy glacial outwash deposits. These soils are on glacial outwash plains and stream terraces. Slopes range from 0 to 50 percent.

Windsor soils formed in the same kind of parent material as and are near Agawam, Ninigret, Unadilla, Haven, Hoosic, Croghan, Naumburg, and Caesar soils. They have more sand in the A and B horizons than Agawam, Ninigret, Unadilla, Haven, and Hoosic soils. They are not mottled in the subsoil, but Croghan and Naumburg soils are mottled in the subsoil. They do not have as much coarse sand and very coarse sand in the C horizon as Caesar soils.

Typical pedon of Windsor loamy fine sand, 3 to 8 percent slopes, in the town of Walpole, 2.1 miles southwest of the village of Walpole, 1.1 miles east of Connecticut River and 200 feet east of NH 12, in woodland:

Oa—0 to 1 inch; well decomposed organic mat.

A—1 to 4 inches; very dark grayish brown (10YR 3/2) loamy fine sand; weak fine granular structure; very friable; many fine, common medium, and few coarse roots; very strongly acid; abrupt wavy boundary.

Bw—4 to 23 inches; yellowish brown (10YR 5/6) loamy fine sand; weak fine granular structure; very friable; common fine, common medium, and few coarse roots; strongly acid; gradual wavy boundary.

BC—23 to 26 inches; yellowish brown (10YR 5/4) sand; single grain; loose; few fine roots; moderately acid; abrupt smooth boundary.

C1—26 to 57 inches; light olive brown (2.5Y 5/4) sand; single grain; loose; slightly acid; abrupt smooth boundary.

C2—57 to 60 inches; brown (10YR 5/3) sand; single grain; loose; slightly acid.

The solum ranges from 18 to 32 inches in thickness. Rock fragments, dominantly gravel, range from 0 to 5 percent throughout. Reaction ranges from very strongly acid to moderately acid in the solum and from very strongly acid to slightly acid in the substratum.

The A horizon has hue of 7.5YR or 10YR, value of 2 or 3, and chroma of 1 to 3. Disturbed pedons have an Ap horizon that has value of 3 or 4 and chroma of 2 to 4. Texture of the A, or Ap, horizon is loamy fine sand or loamy sand.

The B horizon in the upper part has hue of 7.5YR to 2.5Y, value of 4 to 6, and chroma of 4 to 8. In the lower part it has hue of 10YR to 5Y, value of 4 to 6, and chroma of 3 to 6. Texture of the B horizon is loamy fine sand or loamy sand in the upper part and loamy fine sand, loamy sand, fine sand, or sand in the lower part.

The C horizon has hue of 10YR to 5Y, value of 4 to 7, and chroma of 2 to 6. Its texture is sand or fine sand.

Winooski Series

The Winooski series consists of very deep, moderately well drained soils that formed in loamy alluvial sediments. These soils are on flood plains. Slopes range from 0 to 3 percent.

Winooski soils formed in the same kind of parent material as and are near well drained Hadley soils, poorly drained Limerick soils, and very poorly drained Saco soils. Winooski soils are also near Occum, Pootatuck, and Rippowam soils. They have more silt and very fine sand than these other soils.

Typical pedon of Winooski silt loam located in the town of Westmoreland, 150 yards east of the Connecticut River and 200 feet north of Partridge Brook, in woodland:

A—0 to 4 inches; dark grayish brown (2.5Y 4/2) silt loam; weak medium granular structure; friable; many fine roots; neutral; diffuse smooth boundary.

C1—4 to 16 inches; olive gray (5Y 4/2) very fine sandy loam; massive; friable; few fine roots; slightly acid; clear smooth boundary.

C2—16 to 24 inches; olive gray (5Y 4/2) silt loam; many medium faint olive gray (5Y 5/2) and many fine and medium prominent dark yellowish brown (10YR 4/4) mottles; massive; friable; few fine roots; thin streaks of yellowish red (5YR 4/6); moderately acid; clear smooth boundary.

C3—24 to 38 inches; olive (5Y 5/3) very fine sandy loam; few fine and medium distinct gray (5Y 5/1) mottles; massive; friable; few fine roots; moderately acid; clear smooth boundary.

C4—38 to 60 inches; olive gray (5Y 4/2) very fine sandy loam; many medium distinct gray (5Y 5/1) and common medium prominent yellowish red (5YR 4/6) and reddish brown (5YR 4/4) mottles; massive; friable; few fine roots; roots extend to a depth of 60 inches; thin streaks of yellowish red (5YR 4/6); slightly acid.

Rock fragments, dominantly gravel, range from 0 to 5 percent. Reaction ranges from strongly acid to neutral. Depth to mottles ranges from 14 to 20 inches.

The A horizon has hue of 10YR or 2.5Y, value of 3 or 4, and chroma of 2 or 3. Its texture is silt loam or very fine sandy loam.

The C horizon has hue of 10YR to 5Y, value of 3 to 6, and chroma of 2 to 4. Its texture is silt loam, very fine sandy loam, or loamy very fine sand.

Formation of the Soils

Factors of Soil Formation

Soil is formed through the interaction of five major factors: climate, parent material, plant and animal life, topography, and time (*4*). The relative importance of each factor differs from place to place. One or more of the factors may dominate the kind of soil formed in a particular area. More commonly, however, the effect of any one factor is difficult to isolate, and the combined effect of all five factors is evident. Parent material, topography, and drainage account for most of the differences among the soils in Cheshire County.

Climate

Climate influences the weathering process in the soils. It also influences vegetation, which in turn modifies the soil-forming process. Temperature, precipitation, and frost action largely determine the type of weathering process that occurs in the soil in Cheshire County. Temperature and precipitation influence the type of vegetation in an area, which also affects soil-forming processes.

Cheshire County has a continental climate with extreme seasonal changes in temperature. Summers are warm and winters are very cold. More climatic data are given in the section "Climate" under "General Nature of the County."

Temperature and precipitation govern the rates of chemical and physical weathering of the soils. Water from precipitation moving down through the soil promotes leaching of water-soluable material. In the leaching process components of the soil, such as calcium, magnesium, potassium, and sodium, are removed in varying degrees. In the course of a year, water percolating through the soil can translocate tons of minerals per square mile. As a result of this leaching process, the soils in Cheshire County generally are acidic. Leaching also causes the soils to be more acidic above the substratum than in the substratum, unless they have been limed and fertilized. Temperature influences the rate of chemical weathering. In winter the rate of chemical weathering is very low, and in summer as the soil warms up the rate of weathering increases dramatically.

Physical weathering in the form of frost action takes place from fall to spring. The alternate freezing and thawing physically breaks down rock fragments into smaller fragments and promotes the granulation of soil material.

Local variation in climate has had an affect on the soils in Cheshire County. The soils in the Connecticut River Valley, in the western part of the county, generally are 2 or 3 degrees (F) warmer than the soils in the eastern part of the county. This difference in soil temperature has had an effect in the formation of soil in these two areas. The soils in the Connecticut River Valley are quite different morphologically than those in the eastern part of the county.

Parent Material

Parent material is the unconsolidated material in which soils form. It determines to a large extent the mineralogical composition of the soils, and contributes largely to the chemical characteristics of the soil. It influences soil colors and the rate at which soil-forming processes take place. The types of parent material in Cheshire County are glacial till, glaciofluvial deposits (outwash), glaciolacustrine deposits (lake sediments), recent alluvium, and organic material. Most of the parent materials resulted from the Wisconsinan glaciation, which covered this area 12,000 to 14,000 years ago. Alluvial and organic materials are of recent origin and are currently being deposited.

Soils that formed in glacial till are the most extensive in the county. The till material, which was mixed and reworked by glaciation, has a wide range of characteristics. It is generally a reflection of the underlying bedrock and the way it was deposited. For example, coarse-grained bedrock will yield a coarse textured soil. The substratum material of Monadnock soils, for example, is coarse textured for this reason. Soils that formed in finer-grained bedrock, such as the phyllite in the western part of the county, have a medium texture. Bernardston soils are an example. Some of the till masses were laid down in the direction of the movement of the glacier and at the base of the glacier, or underneath the ice. This is basal till and commonly is compact and firm. Soils that formed in this basal till commonly have a compact, firm substratum, or a hardpan, as in Marlow and Bernardston soils.

Soils that formed in glaciofluvial deposits, or outwash, are generally sandy and gravelly. These soils were deposited by the meltwater flowing from the glacier. They are commonly underlain by stratified sand or

stratified sand and gravel. Colton, Hoosic, Adams, and Windsor soils are examples of soils that formed in glacial outwash.

Soils that formed in glaciolacustrine sediments typically are medium textured and do not have any rock fragments. These soils formed in the stillwater of a postglacial lake. The sediments that settled out generally are laid down in thinly bedded, or varved, deposits of fine sands, silts, and small amounts of clay. Unadilla and Scio soils, for example, formed in glaciolacustrine deposits.

Soils on flood plains have been forming in recent alluvial deposits. On flood plains of the faster flowing streams the deposits generally are coarse textured or moderately coarse textured. On flood plains of the slower moving streams or rivers the deposits are medium textured. Such alluvial soils as Occum, Pootatuck, and Rippowam soils in the substratum formed in moderately coarse textured material. Hadley, Winooski, and Limerick soils are examples of alluvial soils that formed in medium textured material. Alluvial soils are young soils and show little evidence of soil profile development.

Soils that formed in organic material are in low depressional areas on the landscape. These areas were ponded at one time, and subsequently, over many years, have accumulated plant remains. The partly decayed remains from grasses, mosses, and woody plants have built up in these depressional areas and have formed bogs, marshes, and swamps. The deposits of organic material range in thickness from a few feet to as much as 30 or 40 feet. Greenwood, Ossipee, and Chocorua soils are examples of soils that formed in organic material.

Plant and Animal Life

The presence of living plants and animals and their remains in a mineral soil is one of the features that distinguishes the soil from its parent material. All living organisms, including bacteria and fungi, actively influence the soil-forming process.

Plants supply the organic matter that gives the darker colors to the surface layer. In areas of poor drainage, this organic matter tends to collect on the surface, creating thick organic layers.

Cheshire County was originally covered with forests of mixed hardwoods and conifers. This forested condition over thousands of years has influenced development of the soils in the following way. The trees take up nutrients from the soil and return them to the soil in the form of leaves, needles, and twigs that fall off the trees. When the trees die they are acted upon by bacteria or fungi, and the nutrients are returned to the soil. Litter from trees, particularly that from conifers, is acidic, and acidity can promote leaching of bases. This change in soil chemistry is part of the reason many of the soils are strongly acid or extremely acid in the surface layer and the subsoil, especially in areas of soils that support conifers.

Earthworms, insects, rodents, and other animals that live in the soil help mix the soil and change its physical characteristics. Earthworms help to aerate the soil and form a granular soil structure. Micro-organisms decompose organic material and return the products of decomposition, such as humus and nutrients, to the soil.

Man's activities have significantly changed many of the soils in the county. Clearing and farming the land have accelerated erosion on most sloping soils. Adding fertilizer and lime to the soil and cultivation have changed both the chemical and physical properties of the soil, particularly in the plow layer. Artificial drainage has altered the soil environment in wet soils. After drainage systems have been installed, the soil becomes aerated and warmer.

Topography

The shape of the land, the slope, and the position on the landscape greatly influence the types of soils that formed. Many soils in Cheshire County that formed in identical parent material under the same climatic conditions show differences because of their position on the landscape (fig. 18). These differences are largely the result of varying drainage conditions.

Marlow, Peru, and Pillsbury soils are examples of soils that all formed in basal till, but they are different mainly because of their position on the landscape. Marlow soils are well drained and generally are on upper convex slopes. In this position, excess water runs off readily from the Marlow soils. Peru soils are moderately well drained, and generally are on lower, concave slopes. In this position Peru soils receive water through infiltration and from runoff and become saturated. The water table is perched on the hardpan for a significant period of time.

Pillsbury soils are poorly drained or somewhat poorly drained, and generally are in depressions. In this position water is ponded and there is little runoff. Water stays in the depressions for long periods of time. The soils show evidence of wetness, which typically have gray colors and a dark surface layer. Table 18 shows the relationship among parent material, dominant texture, and drainage of the soils in the county.

Topography also has an effect on the temperature of the soil. Temperature affects soil development as discussed under the section "Climate." The soils at higher elevations on the eastern side of Cheshire County are cooler than those at lower elevations on the western side of the county. The soils in the eastern part of the county have developed differently than the soils in the western part of the county partly because of this topographical difference.

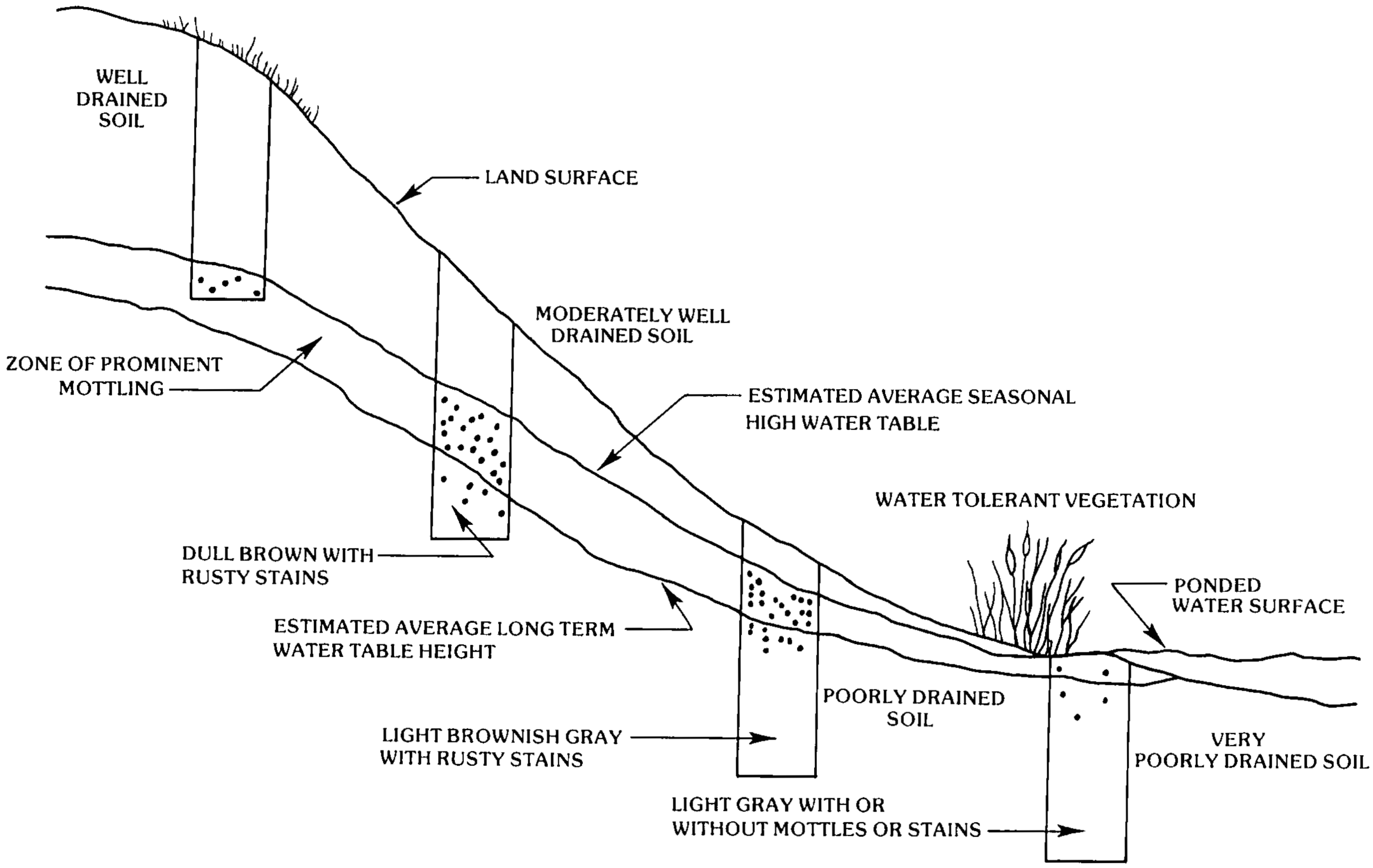


Figure 18.—The relationship between slope and soil drainage classes for some soils that formed in identical parent material under the same climatic conditions.

Time

The degree of development, or age, of a soil commonly reflects the length of time that the parent material has been in place. Most of the soils in this survey area have been forming for about 12,000 to 14,000 years, or since the retreat of the last glacier. This is a short period on the geologic time scale.

The time required for a soil to form depends on the other soil-forming factors. For example, some parent material, such as quartz sand, may change very little even if exposed for centuries. The relative degree of soil development determines whether a soil is young or old. Soils that formed in recent alluvium have indistinct horizons, weak color differences between horizons, and little evidence of other properties of development. Such soils are considered young. Hadley and Winooski soils are examples of young, or immature, soils. Soils that have well expressed profile characteristics are considered to be relatively mature. Monadnock and Berkshire soils are relatively mature soils in Cheshire County. They have been forming since glaciation. They have a reddish, dark layer in the upper part of the subsoil. This distinct layer is the result of accumulation of organic matter, iron, and aluminum over a long period of time.

Bedrock Geology

The bedrock that underlies Cheshire County consists mostly of metamorphosed sedimentary and igneous rock. The bedrock in the western part of the county is mainly in the Littleton Formation, and is a fine grained, metamorphosed, gray mica schist and phyllite. This bedrock has yielded soils that have silt loam and very fine sandy loam textures. The Littleton Formation is about 370 million years old. The rest of the county has mixed bedrock formations. Kinsman Quartz Monzonite, Bethleham gneiss, and quartz diorite are coarse-grained bedrock foundations that formed in metamorphosed igneous rock. These formations are on the northeast

side, in the south-central part, and in the southwest part of the county. They have yielded the coarse-textured soils in the county. Also, many of the areas that have large boulders on the surface are underlain by Kinsman Quartz Monzonite. In the central part of the county the bedrock is granite, granodiorite, and sillimanite of the Littleton Formation (*3*).

Glacial Geology

The landscape in Cheshire County is the result of the Wisconsinan glacier that covered the survey area 12,000 to 14,000 years ago. The ice sheet formed in southern Canada and advanced south through the county as the climate became cooler. The ice was estimated to be 1 mile thick at its peak. It moved through this area in a northwest to southeast direction. As it moved, it carried large masses of stones, boulders, and soil material. This material was crushed and mixed as the glacier scoured and scraped its way over the hills and mountains of this area. As the climate became warmer, the glacier began to melt and it dropped the debris it was carrying over the landscape. This unsorted material deposited directly from the ice sheet is called glacial till. In most of the county a blanket of this till covers the bedrock. The till varies considerably in thickness on the landscape. It is generally thinner on mountaintops and the higher hills, and thicker on the lower hills and lower side slopes.

Water flowing off the melting glacier picked up sand and gravel, and carried them along in streams. The water-worked sand and gravel materials were deposited as terraces, outwash plains, kames, and eskers. These stratified deposits generally are in valleys throughout Cheshire County.

Areas around Keene and in the Connecticut River Valley show evidence of postglacial lakes. Apparently, as the ice retreated, large dams formed, held back water, and created lakes. Apparently these lakes existed for a considerable length of time. Sediments that settled out in the bottom of these lakes formed thin stratifications, or varves. In the still waters of the lakes the finer soil particles settled out and generally were free of rock fragments. Eventually, the ice dams gave way and the lakes drained.

The landscape remains essentially the same today as it did when the glacier retreated. Erosion has slightly modified some landforms, and some gullies have been cut into the more erodible soils. Some flood plains have received a build-up of alluvial sediments, and some bogs and marshes have received organic deposits. Also, a few areas have been cut and filled.

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Glossary

ABC soil. A soil having an A, a B, and a C horizon.

Ablation till. Loose, permeable till deposited during the final downwasting of glacial ice. Lenses of crudely sorted sand and gravel are common.

AC soil. A soil having only an A and a C horizon. Commonly, such soil formed in recent alluvium or on steep rocky slopes.

Aeration, soil. The exchange of air in soil with air from the atmosphere. The air in a well aerated soil is similar to that in the atmosphere; the air in a poorly aerated soil is considerably higher in carbon dioxide and lower in oxygen.

Aggregate, soil. Many fine particles held in a single mass or cluster. Natural soil aggregates, such as granules, blocks, or prisms, are called peds. Clods are aggregates produced by tillage or logging.

Alluvium. Material, such as sand, silt, or clay, deposited on land by streams.

Area reclaim (in tables). An area difficult to reclaim after the removal of soil for construction and other uses. Revegetation and erosion control are extremely difficult.

Association, soil. A group of soils geographically associated in a characteristic repeating pattern and defined and delineated as a single map unit.

Available water capacity (available moisture capacity). The capacity of soils to hold water available for use by most plants. It is commonly defined as the difference between the amount of soil water at field moisture capacity and the amount at wilting point. It is commonly expressed as inches of water per inch of soil. The capacity, in inches, in a 40-inch profile or to a limiting layer is expressed as—

	Inches
Very low	0 to 2.4
Low	2.4 to 3.2
Moderate	3.2 to 5.2
High	more than 5.2

Basal till. Compact glacial till deposited beneath the ice.

Base saturation. The degree to which material having cation-exchange properties is saturated with exchangeable bases (sum of Ca, Mg, Na, K), expressed as a percentage of the total cation-exchange capacity.

Bedding planes. Fine stratifications, less than 5 millimeters thick, in unconsolidated alluvial, eolian, lacustrine, or marine sediments.

Bedding system. A drainage system made by plowing, grading, or otherwise shaping the surface of a flat field. It consists of a series of low ridges separated by shallow, parallel dead furrows.

Bedrock. The solid rock that underlies the soil and other unconsolidated material or that is exposed at the surface.

Bench terrace. A raised, level or nearly level strip of earth constructed on or nearly on the contour, supported by a barrier of rocks or similar material, and designed to make the soil suitable for tillage and to prevent accelerated erosion.

Bisequum. Two sequences of soil horizons, each of which consists of an illuvial horizon and the overlying eluvial horizons.

Blowout. A shallow depression from which all or most of the soil material has been removed by wind. A blowout has a flat or irregular floor formed by a resistant layer or by an accumulation of pebbles or cobbles. In some blowouts the water table is exposed.

Bottom land. The normal flood plain of a stream, subject to flooding.

Boulders. Rock fragments larger than 2 feet (60 centimeters) in diameter.

Broad-base terrace. A ridge-type terrace built to control erosion by diverting runoff along the contour at a nonscouring velocity. The terrace is 10 to 20 inches high and 15 to 30 feet wide and has gently sloping sides, a rounded crown, and a dish-shaped channel along the upper side. It may be nearly level or have a grade toward one or both ends.

Calcareous soil. A soil containing enough calcium carbonate (commonly combined with magnesium carbonate) to effervesce visibly when treated with cold, dilute hydrochloric acid.

California bearing ratio (CBR). The load-supporting capacity of a soil as compared to that of a standard crushed limestone, expressed as a ratio. First standardized in California. A soil having a CBR of 16 supports 16 percent of the load that would be supported by standard crushed limestone, per unit area, with the same degree of distortion.

Capillary water. Water held as a film around soil particles and in tiny spaces between particles. Surface tension is the adhesive force that holds capillary water in the soil.

Carrying capacity. The maximum stocking rate possible without inducing damage to vegetation or related resources. The rate may vary from year to year because of fluctuating forage production.

Catena. A sequence, or "chain," of soils on a landscape that formed in similar kinds of parent material but have different characteristics as a result of differences in relief and drainage.

Cation. An ion carrying a positive charge of electricity. The common soil cations are calcium, potassium, magnesium, sodium, and hydrogen.

Cation-exchange capacity. The total amount of exchangeable cations that can be held by the soil, expressed in terms of milliequivalents per 100 grams of soil at neutrality (pH 7.0) or at some other stated pH value. The term, as applied to soils, is synonymous with base-exchange capacity but is more precise in meaning.

Catsteps. Very small, irregular terraces on steep hillsides, especially in pasture, formed by the trampling of cattle or the slippage of saturated soil.

Cement rock. Shaly limestone used in the manufacture of cement.

Channery soil. A soil that is, by volume, more than 15 percent thin, flat fragments of sandstone, shale, slate, limestone, or schist as much as 6 inches along the longest axis. A single piece is called a channer.

Chiseling. Tillage with an implement having one or more soil-penetrating points that shatter or loosen hard compacted layers to a depth below normal plow depth.

Clay. As a soil separate, the mineral soil particles less than 0.002 millimeter in diameter. As a soil textural class, soil material that is 40 percent or more clay, less than 45 percent sand, and less than 40 percent silt.

Clay film. A thin coating of oriented clay on the surface of a soil aggregate or lining pores or root channels. Synonyms: clay coating, clay skin.

Claypan. A slowly permeable soil horizon that contains much more clay than the horizons above it. A claypan is commonly hard when dry and plastic or stiff when wet.

Climax vegetation. The stabilized plant community on a particular site. The plant cover reproduces itself and does not change so long as the environment remains the same.

Coarse fragments. If round, mineral or rock particles 2 millimeters to 25 centimeters (10 inches) in diameter; if flat, mineral or rock particles (flagstone) 15 to 38 centimeters (6 to 15 inches) long.

Coarse textured soil. Sand or loamy sand.

Cobblestone (or cobble). A rounded or partly rounded fragment of rock 3 to 10 inches (7.5 to 25 centimeters) in diameter.

Colluvium. Soil material, rock fragments, or both moved by creep, slide, or local wash and deposited at the base of steep slopes.

Complex slope. Irregular or variable slope. Planning or constructing terraces, diversions, and other water-control measures on a complex slope is difficult.

Complex, soil. A map unit of two or more kinds of soil in such an intricate pattern or so small in area that it is not practical to map them separately at the selected scale of mapping. The pattern and proportion of the soils are somewhat similar in all areas.

Compressible (in tables). Excessive decrease in volume of soft soil under load.

Concretions. Grains, pellets, or nodules of various sizes, shapes, and colors consisting of concentrated compounds or cemented soil grains. The composition of most concretions is unlike that of the surrounding soil. Calcium carbonate and iron oxide are common compounds in concretions.

Congeliturbate. Soil material disturbed by frost action.

Conservation tillage. A tillage and planting system in which crop residue covers at least 30 percent of the soil surface after planting. Where soil erosion by wind is the main concern, the system leaves the equivalent of at least 1,000 pounds per acre of flat small-grain residue on the surface during the critical erosion period.

Consistence, soil. The feel of the soil and the ease with which a lump can be crushed by the fingers. Terms commonly used to describe consistence are—

Loose.—Noncoherent when dry or moist; does not hold together in a mass.

Friable.—When moist, crushes easily under gentle pressure between thumb and forefinger and can be pressed together into a lump.

Firm.—When moist, crushes under moderate pressure between thumb and forefinger, but resistance is distinctly noticeable.

Plastic.—When wet, readily deformed by moderate pressure but can be pressed into a lump; will form a "wire" when rolled between thumb and forefinger.

Sticky.—When wet, adheres to other material and tends to stretch somewhat and pull apart rather than to pull free from other material.

Hard.—When dry, moderately resistant to pressure; can be broken with difficulty between thumb and forefinger.

Soft.—When dry, breaks into powder or individual grains under very slight pressure.

Cemented.—Hard; little affected by moistening.

Contour stripcropping. Growing crops in strips that follow the contour. Strips of grass or close-growing crops are alternated with strips of clean-tilled crops or summer fallow.

Control section. The part of the soil on which classification is based. The thickness varies among different kinds of soil, but for many it is that part of

the soil profile between depths of 10 inches and 40 or 80 inches.

Coprogenous earth (sedimentary peat). Fecal material deposited in water by aquatic organisms.

Corrosive. High risk of corrosion to uncoated steel or deterioration of concrete.

Cover crop. A close-growing crop grown primarily to improve and protect the soil between periods of regular crop production, or a crop grown between trees and vines in orchards and vineyards.

Cutbanks cave (in tables). The walls of excavations tend to cave in or slough.

Deferred grazing. Postponing grazing or resting grazing land for a prescribed period.

Dense layer (in tables). A very firm, massive layer that has a bulk density of more than 1.8 grams per cubic centimeter. Such a layer affects the ease of digging and can affect filling and compacting.

Depth to rock (in tables). Bedrock is too near the surface for the specified use.

Diversion (or diversion terrace). A ridge of earth, generally a terrace, built to protect downslope areas by diverting runoff from its natural course.

Drainage class (natural). Refers to the frequency and duration of periods of saturation or partial saturation during soil formation, as opposed to altered drainage, which is commonly the result of artificial drainage or irrigation but may be caused by the sudden deepening of channels or the blocking of drainage outlets. Seven classes of natural soil drainage are recognized:

Excessively drained.—Water is removed from the soil very rapidly. Excessively drained soils are commonly very coarse textured, rocky, or shallow. Some are steep. All are free of the mottling related to wetness.

Somewhat excessively drained.—Water is removed from the soil rapidly. Many somewhat excessively drained soils are sandy and rapidly pervious. Some are shallow. Some are so steep that much of the water they receive is lost as runoff. All are free of the mottling related to wetness.

Well drained.—Water is removed from the soil readily, but not rapidly. It is available to plants throughout most of the growing season, and wetness does not inhibit growth of roots for significant periods during most growing seasons. Well drained soils are commonly medium textured. They are mainly free of mottling.

Moderately well drained.—Water is removed from the soil somewhat slowly during some periods. Moderately well drained soils are wet for only a short time during the growing season, but periodically they are wet long enough that most mesophytic crops are affected. They commonly have a slowly pervious layer within or directly below the solum, or periodically receive high rainfall, or both.

Somewhat poorly drained.—Water is removed slowly enough that the soil is wet for significant periods during the growing season. Wetness markedly restricts the growth of mesophytic crops unless artificial drainage is provided. Somewhat poorly drained soils commonly have a slowly pervious layer, a high water table, additional water from seepage, nearly continuous rainfall, or a combination of these.

Poorly drained.—Water is removed so slowly that the soil is saturated periodically during the growing season or remains wet for long periods. Free water is commonly at or near the surface for long enough during the growing season that most mesophytic crops cannot be grown unless the soil is artificially drained. The soil is not continuously saturated in layers directly below plow depth. Poor drainage results from a high water table, a slowly pervious layer within the profile, seepage, nearly continuous rainfall, or a combination of these.

Very poorly drained.—Water is removed from the soil so slowly that free water remains at or on the surface during most of the growing season. Unless the soil is artificially drained, most mesophytic crops cannot be grown. Very poorly drained soils are commonly level or depressed and are frequently ponded. Yet, where rainfall is high and nearly continuous, they can have moderate or high slope gradients.

Drainage, surface. Runoff, or surface flow of water, from an area.

Drumlin. A low, smooth, elongated oval hill, mound, or ridge of compact glacial till. The longer axis is parallel to the path of the glacier and commonly has a blunt nose pointing in the direction from which the ice approached.

Eluviation. The movement of material in true solution or colloidal suspension from one place to another within the soil. Soil horizons that have lost material through eluviation are eluvial; those that have received material are illuvial.

Eolian soil material. Earthy parent material accumulated through wind action; commonly refers to sandy material in dunes or to loess in blankets on the surface.

Erosion. The wearing away of the land surface by water, wind, ice, or other geologic agents and by such processes as gravitational creep.

Erosion (geologic). Erosion caused by geologic processes acting over long geologic periods and resulting in the wearing away of mountains and the building up of such landscape features as flood plains and coastal plains. Synonym: natural erosion.

Erosion (accelerated). Erosion much more rapid than geologic erosion, mainly as a result of the

activities of man or other animals or of a catastrophe in nature, for example, fire, that exposes the surface.

Erosion pavement. A layer of gravel or stones that remains on the surface after fine particles are removed by sheet or rill erosion.

Esker (geology). A narrow, winding ridge of stratified gravelly and sandy drift deposited by a stream flowing in a tunnel beneath a glacier.

Excess fines (in tables). Excess silt and clay in the soil. The soil is not a source of gravel or sand for construction purposes.

Excess lime (in tables). Excess carbonates in the soil that restrict the growth of some plants.

Fallow. Cropland left idle in order to restore productivity through accumulation of moisture. Summer fallow is common in regions of limited rainfall where cereal grains are grown. The soil is tilled for at least one growing season for weed control and decomposition of plant residue.

Fast intake (in tables). The rapid movement of water into the soil.

Fertility, soil. The quality that enables a soil to provide plant nutrients, in adequate amounts and in proper balance, for the growth of specified plants when light, moisture, temperature, tilth, and other growth factors are favorable.

Fibric soil material (peat). The least decomposed of all organic soil material. Peat contains a large amount of well preserved fiber that is readily identifiable according to botanical origin. Peat has the lowest bulk density and the highest water content at saturation of all organic soil material.

Field moisture capacity. The moisture content of a soil, expressed as a percentage of the ovendry weight, after the gravitational, or free, water has drained away; the field moisture content 2 or 3 days after a soaking rain; also called *normal field capacity, normal moisture capacity,* or *capillary capacity.*

Fine textured soil. Sandy clay, silty clay, and clay.

First bottom. The normal flood plain of a stream, subject to frequent or occasional flooding.

Flagstone. A thin fragment of sandstone, limestone, slate, shale, or (rarely) schist, 6 to 15 inches (15 to 38 centimeters) long.

Flood plain. A nearly level alluvial plain that borders a stream and is subject to flooding unless protected artificially.

Foot slope. The inclined surface at the base of a hill.

Forb. Any herbaceous plant not a grass or a sedge.

Fragile (in tables). A soil that is easily damaged by use or disturbance.

Fragipan. A loamy, brittle subsurface horizon low in porosity and content of organic matter and low or moderate in clay but high in silt or very fine sand. A fragipan appears cemented and restricts roots. When dry, it is hard or very hard and has a higher bulk density than the horizon or horizons above. When moist, it tends to rupture suddenly under pressure rather than to deform slowly.

Frost action (in tables). Freezing and thawing of soil moisture. Frost action can damage roads, buildings and other structures, and plant roots.

Genesis, soil. The mode of origin of the soil. Refers especially to the processes or soil-forming factors responsible for the formation of the solum, or true soil, from the unconsolidated parent material.

Glacial drift (geology). Pulverized and other rock material transported by glacial ice and then deposited. Also, the sorted and unsorted material deposited by streams flowing from glaciers.

Glacial outwash (geology). Gravel, sand, and silt, commonly stratified, deposited by glacial meltwater.

Glacial till (geology). Unsorted, nonstratified glacial drift consisting of clay, silt, sand, and boulders transported and deposited by glacial ice.

Glaciofluvial deposits (geology). Material moved by glaciers and subsequently sorted and deposited by streams flowing from the melting ice. The deposits are stratified and occur as kames, eskers, deltas, and outwash plains.

Glaciolacustrine deposits. Material ranging from fine clay to sand derived from glaciers and deposited in glacial lakes mainly by glacial meltwater. Many deposits are interbedded or laminated.

Gleyed soil. Soil that formed under poor drainage, resulting in the reduction of iron and other elements in the profile and in gray colors and mottles.

Graded stripcropping. Growing crops in strips that grade toward a protected waterway.

Grassed waterway. A natural or constructed waterway, typically broad and shallow, seeded to grass as protection against erosion. Conducts surface water away from cropland.

Gravel. Rounded or angular fragments of rock up to 3 inches (2 millimeters to 7.6 centimeters) in diameter. An individual piece is a pebble.

Gravelly soil material. Material that is 15 to 50 percent, by volume, rounded or angular rock fragments, not prominently flattened, up to 3 inches (7.6 centimeters) in diameter.

Green manure crop (agronomy). A soil-improving crop grown to be plowed under in an early stage of maturity or soon after maturity.

Ground water (geology). Water filling all the unblocked pores of underlying material below the water table.

Gully. A miniature valley with steep sides cut by running water and through which water ordinarily runs only after rainfall. The distinction between a gully and a rill is one of depth. A gully generally is an obstacle to farm machinery and is too deep to be obliterated by ordinary tillage; a rill is of lesser depth and can be smoothed over by ordinary tillage.

Hardpan. A hardened soil horizon, or layer. The soil material is sandy or loamy, and is compacted.

Hemic soil material (mucky peat). Organic soil material intermediate in degree of decomposition between the less decomposed fibric and the more decomposed sapric material.

Horizon, soil. A layer of soil, approximately parallel to the surface, having distinct characteristics produced by soil-forming processes. In the identification of soil horizons, an uppercase letter represents the major horizons. Numbers or lowercase letters that follow represent subdivisions of the major horizons. The major horizons are as follows:

O horizon.—An organic layer of fresh and decaying plant residue.

A horizon.—The mineral horizon at or near the surface in which an accumulation of humified organic matter is mixed with the mineral material. Also, any plowed or disturbed surface layer.

E horizon.—The mineral horizon in which the main feature is loss of silicate clay, iron, aluminum, or some combination of these.

B horizon.—The mineral horizon below an O, A, or E horizon. The B horizon is in part a layer of transition from the overlying horizon to the underlying C horizon. The B horizon also has distinctive characteristics, such as (1) accumulation of clay, sesquioxides, humus, or a combination of these; (2) granular, prismatic, or blocky structure; (3) redder or browner colors than those in the A horizon; or (4) a combination of these.

C horizon.—The mineral horizon or layer, excluding indurated bedrock, that is little affected by soil-forming processes and does not have the properties typical of the overlying horizon. The material of a C horizon may be either like or unlike that in which the solum formed. If the material is known to differ from that in the solum, an Arabic numeral, commonly a 2, precedes the letter C.

Cr horizon.—Soft, consolidated bedrock beneath the soil.

R layer.—Hard, consolidated bedrock beneath the soil. The bedrock commonly underlies a C horizon but can be directly below an A or a B horizon.

Humus. The well decomposed, more or less stable part of the organic matter in mineral soils.

Hydrologic soil groups. Refers to soils grouped according to their runoff-producing characteristics. The chief consideration is the inherent capacity of soil bare of vegetation to permit infiltration. The slope and the kind of plant cover are not considered but are separate factors in predicting runoff. Soils are assigned to four groups. In group A are soils having a high infiltration rate when thoroughly wet and having a low runoff potential. They are mainly deep, well drained, and sandy or gravelly. In group D, at the other extreme, are soils having a very slow infiltration rate and thus a high runoff potential. They have a claypan or clay layer at or near the surface, have a permanent high water table, or are shallow over nearly impervious bedrock or other material. A soil is assigned to two hydrologic groups if part of the acreage is artificially drained and part is undrained.

Illuviation. The movement of soil material from one horizon to another in the soil profile. Generally, material is removed from an upper horizon and deposited in a lower horizon.

Impervious soil. A soil through which water, air, or roots penetrate slowly or not at all. No soil is absolutely impervious to air and water all the time.

Infiltration. The downward entry of water into the immediate surface of soil or other material, as contrasted with percolation, which is movement of water through soil layers or material.

Infiltration capacity. The maximum rate at which water can infiltrate into a soil under a given set of conditions.

Infiltration rate. The rate at which water penetrates the surface of the soil at any given instant, usually expressed in inches per hour. The rate can be limited by the infiltration capacity of the soil or the rate at which water is applied at the surface.

Intake rate. The average rate of water entering the soil under irrigation. Most soils have a fast initial rate; the rate decreases with application time. Therefore, intake rate for design purposes is not a constant but is a variable depending on the net irrigation application. The rate of water intake in inches per hour is expressed as follows:

Less than 0.2	very low
0.2 to 0.4	low
0.4 to 0.75	moderately low
0.75 to 1.25	moderate
1.25 to 1.75	moderately high
1.75 to 2.5	high
More than 2.5	very high

Irrigation. Application of water to soils to assist in production of crops. Methods of irrigation are—

Border.—Water is applied at the upper end of a strip in which the lateral flow of water is controlled by small earth ridges called border dikes, or borders.

Basin.—Water is applied rapidly to nearly level plains surrounded by levees or dikes.

Controlled flooding.—Water is released at intervals from closely spaced field ditches and distributed uniformly over the field.

Corrugation.—Water is applied to small, closely spaced furrows or ditches in fields of close-growing crops or in orchards so that it flows in only one direction.

Drip (or trickle).—Water is applied slowly and under low pressure to the surface of the soil or into the

soil through such applicators as emitters, porous tubing, or perforated pipe.

Furrow.—Water is applied in small ditches made by cultivation implements. Furrows are used for tree and row crops.

Sprinkler.—Water is sprayed over the soil surface through pipes or nozzles from a pressure system.

Subirrigation.—Water is applied in open ditches or tile lines until the water table is raised enough to wet the soil.

Wild flooding.—Water, released at high points, is allowed to flow onto an area without controlled distribution.

Kame (geology). An irregular, short ridge or hill of stratified glacial drift.

Karst (topography). The relief of an area underlain by limestone that dissolves in differing degrees, thus forming numerous depressions or small basins.

Lacustrine deposit (geology). Material deposited in lake water and exposed when the water level is lowered or the elevation of the land is raised.

Landslide. The rapid downhill movement of a mass of soil and loose rock, generally when wet or saturated. The speed and distance of movement, as well as the amount of soil and rock material, vary greatly.

Large stones (in tables). Rock fragments 3 inches (7.6 centimeters) or more across. Large stones adversely affect the specified use of the soil.

Leaching. The removal of soluble material from soil or other material by percolating water.

Liquid limit. The moisture content at which the soil passes from a plastic to a liquid state.

Loam. Soil material that is 7 to 27 percent clay particles, 28 to 50 percent silt particles, and less than 52 percent sand particles.

Loess. Fine grained material, dominantly of silt-sized particles, deposited by wind.

Low strength. The soil is not strong enough to support loads.

Medium textured soil. Very fine sandy loam, loam, silt loam, or silt.

Metamorphic rock. Rock of any origin altered in mineralogical composition, chemical composition, or structure by heat, pressure, and movement. Nearly all such rocks are crystalline.

Mineral soil. Soil that is mainly mineral material and low in organic material. Its bulk density is more than that of organic soil.

Minimum tillage. Only the tillage essential to crop production and prevention of soil damage. (See Conservation tillage.)

Miscellaneous area. An area that has little or no natural soil and supports little or no vegetation.

Moderately coarse textured soil. Coarse sandy loam, sandy loam, and fine sandy loam.

Moderately fine textured soil. Clay loam, sandy clay loam, and silty clay loam.

Moraine (geology). An accumulation of earth, stones, and other debris deposited by a glacier. Some types are terminal, lateral, medial, and ground.

Morphology, soil. The physical makeup of the soil, including the texture, structure, porosity, consistence, color, and other physical, mineral, and biological properties of the various horizons, and the thickness and arrangement of those horizons in the soil profile.

Mottling, soil. Irregular spots of different colors that vary in number and size. Mottling generally indicates poor aeration and impeded drainage. Descriptive terms are as follows: abundance—*few, common,* and *many*; size—*fine, medium,* and *coarse*; and contrast—*faint, distinct,* and *prominent*. The size measurements are of the diameter along the greatest dimension. *Fine* indicates less than 5 millimeters (about 0.2 inch); *medium*, from 5 to 15 millimeters (about 0.2 to 0.6 inch); and *coarse*, more than 15 millimeters (about 0.6 inch).

Muck. Dark colored, finely divided, well decomposed organic soil material. (See Sapric soil material.)

Munsell notation. A designation of color by degrees of the three simple variables—hue, value, and chroma. For example, a notation of 10YR 6/4 is a color of 10YR hue, value of 6, and chroma of 4.

Narrow-base terrace. A terrace no more than 4 to 8 feet wide at the base. A narrow-base terrace is similar to a broad-base terrace, except for the width of the ridge and channel.

Neutral soil. A soil having a pH value between 6.6 and 7.3. (See Reaction, soil.)

Nutrient, plant. Any element taken in by a plant essential to its growth. Plant nutrients are mainly nitrogen, phosphorus, potassium, calcium, magnesium, sulfur, iron, manganese, copper, boron, and zinc obtained from the soil and carbon, hydrogen, and oxygen obtained from the air and water.

Organic matter. Plant and animal residue in the soil in various stages of decomposition.

Outwash, glacial. Stratified sand and gravel produced by glaciers and carried, sorted, and deposited by glacial melt water.

Outwash plain. A landform of mainly sandy or coarse textured material of glaciofluvial origin. An outwash plain is commonly smooth; where pitted, it is generally low in relief.

Pan. A compact, dense layer in a soil that impedes the movement of water and the growth of roots. For example, *hardpan, fragipan, claypan, plowpan,* and *traffic pan*.

Parent material. The unconsolidated organic and mineral material in which soil forms.

Peat. Unconsolidated material, largely undecomposed organic matter, that has accumulated under excess moisture. (See Fibric soil material.)

Ped. An individual natural soil aggregate, such as a granule, a prism, or a block.

Pedon. The smallest volume that can be called "a soil." A pedon is three dimensional and large enough to permit study of all horizons. Its area ranges from about 10 to 100 square feet (1 square meter to 10 square meters), depending on the variability of the soil.

Percolation. The downward movement of water through the soil.

Percs slowly (in tables). The slow movement of water through the soil, adversely affecting the specified use.

Permafrost. Layers of soil, or even bedrock, occurring in arctic or subarctic regions, in which a temperature below freezing has existed continuously for a long time.

Permeability. The quality of the soil that enables water to move downward through the profile. Permeability is measured as the number of inches per hour that water moves downward through the saturated soil. Terms describing permeability are:

Very slow	less than 0.06 inch
Slow	0.06 to 0.2 inch
Moderately slow	0.2 to 0.6 inch
Moderate	0.6 inch to 2.0 inches
Moderately rapid	2.0 to 6.0 inches
Rapid	6.0 to 20 inches
Very rapid	more than 20 inches

pH value. A numerical designation of acidity and alkalinity in soil. (See Reaction, soil.)

Phase, soil. A subdivision of a soil series based on features that affect its use and management. For example, slope, stoniness, and thickness.

Piping (in tables). Formation of subsurface tunnels or pipelike cavities by water moving through the soil.

Pitting (in tables). Pits caused by melting ground ice. They form on the soil after plant cover is removed.

Plastic limit. The moisture content at which a soil changes from semisolid to plastic.

Plasticity index. The numerical difference between the liquid limit and the plastic limit; the range of moisture content within which the soil remains plastic.

Plowpan. A compacted layer formed in the soil directly below the plowed layer.

Ponding. Standing water on soils in closed depressions. Unless the soils are artificially drained, the water can be removed only by percolation or evapotranspiration.

Poor filter (in tables). Because of rapid permeability, the soil may not adequately filter effluent from a waste disposal system.

Poor outlets (in tables). Refers to areas where surface or subsurface drainage outlets are difficult or expensive to install.

Poorly graded. Refers to a coarse grained soil or soil material consisting mainly of particles of nearly the same size. Because there is little difference in size of the particles, density can be increased only slightly by compaction.

Productivity, soil. The capability of a soil for producing a specified plant or sequence of plants under specific management.

Profile, soil. A vertical section of the soil extending through all its horizons and into the parent material.

Reaction, soil. A measure of acidity or alkalinity of a soil, expressed in pH values. A soil that tests to pH 7.0 is described as precisely neutral in reaction because it is neither acid nor alkaline. The degree of acidity or alkalinity is expressed as—

	pH
Extremely acid	below 4.5
Very strongly acid	4.5 to 5.0
Strongly acid	5.1 to 5.5
Medium acid	5.6 to 6.0
Slightly acid	6.1 to 6.5
Neutral	6.6 to 7.3
Mildly alkaline	7.4 to 7.8
Moderately alkaline	7.9 to 8.4
Strongly alkaline	8.5 to 9.0
Very strongly alkaline	9.1 and higher

Regolith. The unconsolidated mantle of weathered rock and soil material on the earth's surface; the loose earth material above the solid rock.

Relief. The elevations or inequalities of a land surface, considered collectively.

Residuum (residual soil material). Unconsolidated, weathered or partly weathered mineral material that accumulated as consolidated rock disintegrated in place.

Rill. A steep sided channel resulting from accelerated erosion. A rill is generally a few inches deep and not wide enough to be an obstacle to farm machinery.

Rippable. Bedrock or hardpan can be excavated using a single-tooth ripping attachment mounted on a tractor with a 200-300 draw bar horsepower rating.

Rock fragments. Rock or mineral fragments having a diameter of 2 millimeters or more; for example, pebbles, cobbles, stones, and boulders.

Root zone. The part of the soil that can be penetrated by plant roots.

Rooting depth (in tables). Shallow root zone. The soil is shallow over a layer that greatly restricts roots.

Runoff. The precipitation discharged into stream channels from an area. The water that flows off the surface of the land without sinking into the soil is called surface runoff. Water that enters the soil before reaching surface streams is called ground-water runoff or seepage flow from ground water.

Sand. As a soil separate, individual rock or mineral fragments from 0.05 millimeter to 2.0 millimeters in diameter. Most sand grains consist of quartz. As a

soil textural class, a soil that is 85 percent or more sand and not more than 10 percent clay.

Sandstone. Sedimentary rock containing dominantly sand-size particles.

Sapric soil material (muck). The most highly decomposed of all organic soil material. Muck has the least amount of plant fiber, the highest bulk density, and the lowest water content at saturation of all organic soil material.

Saprolite (soil science). Unconsolidated residual material underlying the soil and grading to hard bedrock below.

Sedimentary rock. Rock made up of particles deposited from suspension in water. The chief kinds of sedimentary rock are conglomerate, formed from gravel; sandstone, formed from sand; shale, formed from clay; and limestone, formed from soft masses of calcium carbonate. There are many intermediate types. Some wind-deposited sand is consolidated into sandstone.

Seepage (in tables). The movement of water through the soil. Seepage adversely affects the specified use.

Sequum. A sequence consisting of an illuvial horizon and the overlying eluvial horizon. (See Eluviation.)

Series, soil. A group of soils that have profiles that are almost alike, except for differences in texture of the surface layer or of the underlying material. All the soils of a series have horizons that are similar in composition, thickness, and arrangement.

Shale. Sedimentary rock formed by the hardening of a clay deposit.

Sheet erosion. The removal of a fairly uniform layer of soil material from the land surface by the action of rainfall and surface runoff.

Shrink-swell. The shrinking of soil when dry and the swelling when wet. Shrinking and swelling can damage roads, dams, building foundations, and other structures. It can also damage plant roots.

Silica. A combination of silicon and oxygen. The mineral form is called quartz.

Silica-sesquioxide ratio. The ratio of the number of molecules of silica to the number of molecules of alumina and iron oxide. The more highly weathered soils or their clay fractions in warm-temperate, humid regions, and especially those in the tropics, generally have a low ratio.

Silt. As a soil separate, individual mineral particles that range in diameter from the upper limit of clay (0.002 millimeter) to the lower limit of very fine sand (0.05 millimeter). As a soil textural class, soil that is 80 percent or more silt and less than 12 percent clay.

Siltstone. Sedimentary rock made up of dominantly silt-sized particles.

Sinkhole. A depression in the landscape where limestone has been dissolved.

Site index. A designation of the quality of a forest site based on the height of the dominant stand at an arbitrarily chosen age. For example, if the average height attained by dominant and codominant trees in a fully stocked stand at the age of 50 years is 75 feet, the site index is 75 feet.

Slick spot. A small area of soil having a puddled, crusted, or smooth surface and an excess of exchangeable sodium. The soil is generally silty or clayey, is slippery when wet, and is low in productivity.

Slippage (in tables). Soil mass susceptible to movement downslope when loaded, excavated, or wet.

Slope. The inclination of the land surface from the horizontal. Percentage of slope is the vertical distance divided by horizontal distance, then multiplied by 100. Thus, a slope of 20 percent is a drop of 20 feet in 100 feet of horizontal distance.

Slope (in tables). Slope is great enough that special practices are required to ensure satisfactory performance of the soil for a specific use.

Sloughed till. Water-saturated till that has flowed slowly downhill from its original place of deposit by glacial ice. It may rest on other till, on glacial outwash, or on a glaciolacustrine deposit.

Slow intake (in tables). The slow movement of water into the soil.

Slow refill (in tables). The slow filling of ponds, resulting from restricted permeability in the soil.

Small stones (in tables). Rock fragments less than 3 inches (7.6 centimeters) in diameter. Small stones adversely affect the specified use of the soil.

Soil. A natural, three-dimensional body at the earth's surface. It is capable of supporting plants and has properties resulting from the integrated effect of climate and living matter acting on earthy parent material, as conditioned by relief over periods of time.

Soil separates. Mineral particles less than 2 millimeters in equivalent diameter and ranging between specified size limits. The names and sizes of separates recognized in the United States are as follows:

	Millimeters
Very coarse sand	2.0 to 1.0
Coarse sand	1.0 to 0.5
Medium sand	0.5 to 0.25
Fine sand	0.25 to 0.10
Very fine sand	0.10 to 0.05
Silt	0.05 to 0.002
Clay	less than 0.002

Solum. The upper part of a soil profile, above the C horizon, in which the processes of soil formation are active. The solum in soil consists of the A, E, and B horizons. Generally, the characteristics of the material in these horizons are unlike those of the underlying material. The living roots and plant and animal activities are largely confined to the solum.

Stone line. A concentration of coarse fragments in a soil. Generally, it is indicative of an old weathered surface. In a cross section, the line may be one fragment or more thick. It generally overlies material that weathered in place and is overlain by recent sediment of variable thickness.

Stones. Rock fragments 10 to 24 inches (25 to 60 centimeters) in diameter.

Stony. Refers to a soil containing stones in numbers that interfere with or prevent tillage.

Stripcropping. Growing crops in a systematic arrangement of strips or bands which provide vegetative barriers to wind and water erosion.

Structure, soil. The arrangement of primary soil particles into compound particles or aggregates. The principal forms of soil structure are—*platy* (laminated), *prismatic* (vertical axis of aggregates longer than horizontal), *columnar* (prisms with rounded tops), *blocky* (angular or subangular), and *granular*. *Structureless* soils are either *single grained* (each grain by itself, as in dune sand) or *massive* (the particles adhering without any regular cleavage, as in many hardpans).

Stubble mulch. Stubble or other crop residue left on the soil or partly worked into the soil. It protects the soil from wind and water erosion after harvest, during preparation of a seedbed for the next crop, and during the early growing period of the new crop.

Subsoil. Technically, the B horizon; roughly, the part of the solum below plow depth.

Subsoiling. Breaking up a compact subsoil by pulling a special chisel through the soil.

Substratum. The part of the soil below the solum.

Subsurface layer. Any surface soil horizon (A, E, AB, or EB) below the surface layer.

Summer fallow. The tillage of uncropped land during the summer to control weeds and allow storage of moisture in the soil for the growth of a later crop. A practice common in semiarid regions, where annual precipitation is not enough to produce a crop every year. Summer fallow is frequently practiced before planting winter grain.

Surface layer. The soil ordinarily moved in tillage, or its equivalent in uncultivated soil, ranging in depth from about 4 to 10 inches (10 to 25 centimeters). Frequently designated as the "plow layer," or the "Ap horizon."

Surface soil. The A, E, AB, and EB horizons. It includes all subdivisions of these horizons.

Taxadjuncts. Soils that cannot be classified in a series recognized in the classification system. Such soils are named for a series they strongly resemble and are designated as taxadjuncts to that series because they differ in ways too small to be of consequence in interpreting their use and behavior.

Terminal moraine. A belt of thick glacial drift that generally marks the termination of important glacial advances.

Terrace. An embankment, or ridge, constructed across sloping soils on the contour or at a slight angle to the contour. The terrace intercepts surface runoff so that water soaks into the soil or flows slowly to a prepared outlet.

Terrace (geologic). An old alluvial plain, ordinarily flat or undulating, bordering a river, a lake, or the sea.

Texture, soil. The relative proportions of sand, silt, and clay particles in a mass of soil. The basic textural classes, in order of increasing proportion of fine particles, are *sand, loamy sand, sandy loam, loam, silt loam, silt, sandy clay loam, clay loam, silty clay loam, sandy clay, silty clay,* and *clay*. The sand, loamy sand, and sandy loam classes may be further divided by specifying "coarse," "fine," or "very fine."

Thin layer (in tables). Otherwise suitable soil material too thin for the specified use.

Till plain. An extensive flat to undulating area underlain by glacial till.

Tilth, soil. The physical condition of the soil as related to tillage, seedbed preparation, seedling emergence, and root penetration.

Toe slope. The outermost inclined surface at the base of a hill; part of a foot slope.

Topsoil. The upper part of the soil, which is the most favorable material for plant growth. It is ordinarily rich in organic matter and is used to topdress roadbanks, lawns, and land affected by mining.

Toxicity (in tables). Excessive amount of toxic substances, such as sodium or sulfur, that severely hinder establishment of vegetation or severely restrict plant growth.

Trace elements. Chemical elements, for example, zinc, cobalt, manganese, copper, and iron, are in soils in extremely small amounts. They are essential to plant growth.

Unstable fill (in tables). Risk of caving or sloughing on banks of fill material.

Upland (geology). Land at a higher elevation, in general, than the alluvial plain or stream terrace; land above the lowlands along streams.

Valley fill. In glaciated regions, material deposited in stream valleys by glacial meltwater. In nonglaciated regions, alluvium deposited by heavily loaded streams.

Variegation. Refers to patterns of contrasting colors assumed to be inherited from the parent material rather than to be the result of poor drainage.

Varve. A sedimentary layer of a lamina or sequence of laminae deposited in a body of still water within a year. Specifically, a thin pair of graded glaciolacustrine layers seasonally deposited, usually

by meltwater streams, in a glacial lake or other body of still water in front of a glacier.

Weathering. All physical and chemical changes produced in rocks or other deposits at or near the earth's surface by atmospheric agents. These changes result in disintegration and decomposition of the material.

Well graded. Refers to soil material consisting of coarse grained particles that are well distributed over a wide range in size or diameter. Such soil normally can be easily increased in density and bearing properties by compaction. Contrasts with poorly graded soil.

Wilting point (or permanent wilting point). The moisture content of soil, on an ovendry basis, at which a plant (specifically a sunflower) wilts so much that it does not recover when placed in a humid, dark chamber.

Tables

TABLE 1.--TEMPERATURE AND PRECIPITATION

(Recorded in the period 1951-81 at Keene, New Hampshire)

Month	Temperature						Precipitation				
	Average daily maximum	Average daily minimum	Average	2 years in 10 will have-- Maximum temperature higher than--	2 years in 10 will have-- Minimum temperature lower than--	Average number of growing degree days*	Average	2 years in 10 will have-- Less than--	2 years in 10 will have-- More than--	Average number of days with 0.10 inch or more	Average snowfall
	°F	°F	°F	°F	°F	Units	In	In	In		In
January-----	32.0	10.2	21.1	55	-20	6	3.11	1.41	4.56	7	16.7
February----	35.5	12.7	24.1	58	-21	11	2.80	1.62	3.85	6	15.8
March-------	44.3	23.2	33.8	68	-5	33	3.26	1.99	4.39	8	12.7
April-------	58.4	32.9	45.7	84	15	195	3.31	2.33	4.21	8	2.8
May---------	71.1	42.9	57.0	91	25	527	3.46	2.01	4.75	8	.1
June--------	78.8	52.6	65.7	95	33	771	3.60	2.01	5.00	7	.0
July--------	83.5	56.7	70.1	97	40	933	3.44	2.09	4.65	7	.0
August------	81.0	55.2	68.1	96	37	871	3.57	2.28	4.73	7	.0
September---	73.5	47.5	60.5	91	26	615	3.48	1.83	4.92	7	.0
October-----	62.4	36.7	49.6	83	17	302	3.21	1.77	4.48	6	.1
November----	48.9	29.5	39.2	71	7	81	3.54	2.30	4.66	8	3.6
December----	35.9	17.4	26.7	59	-13	11	3.60	2.05	4.97	8	16.1
Yearly:											
Average---	58.8	34.8	46.8	---	---	---	---	---	---	---	---
Extreme---	---	---	---	98	-21	---	---	---	---	---	---
Total-----	---	---	---	---	---	4,356	40.38	34.12	46.41	87	67.9

* A growing degree day is a unit of heat available for plant growth. It can be calculated by adding the maximum and minimum daily temperatures, dividing the sum by 2, and subtracting the temperature below which growth is minimal for the principal crops in the area (40 degrees F).

TABLE 2.--FREEZE DATES IN SPRING AND FALL

(Recorded in the period 1951-81 at Keene, New Hampshire)

Probability	Temperature		
	24^{o} F or lower	28^{o} F or lower	32^{o} F or lower
Last freezing temperature in spring:			
1 year in 10 later than--	May 9	May 25	June 5
2 years in 10 later than--	May 3	May 19	May 31
5 years in 10 later than--	Apr. 20	May 7	May 21
First freezing temperature in fall:			
1 year in 10 earlier than--	Sept. 29	Sept. 20	Sept. 11
2 years in 10 earlier than--	Oct. 4	Sept. 24	Sept. 16
5 years in 10 earlier than--	Oct. 15	Oct. 3	Sept. 26

TABLE 3.--GROWING SEASON

(Recorded in the period 1951-81 at Keene, New Hampshire)

Probability	Daily minimum temperature during growing season		
	Higher than 24^{o} F	Higher than 28^{o} F	Higher than 32^{o} F
	Days	Days	Days
9 years in 10	153	123	103
8 years in 10	161	132	111
5 years in 10	176	148	127
2 years in 10	192	164	142
1 year in 10	199	172	150

TABLE 4.--ACREAGE AND PROPORTIONATE EXTENT OF THE SOILS

Map symbol	Soil name	Acres	Percent
2	Suncook loamy fine sand	1,030	0.2
4	Pootatuck fine sandy loam	1,810	0.4
5	Rippowam fine sandy loam	2,150	0.5
6	Saco mucky silt loam	1,520	0.3
9	Winooski silt loam	215	*
10B	Merrimac fine sandy loam, 3 to 8 percent slopes	1,220	0.3
10C	Merrimac fine sandy loam, 8 to 15 percent slopes	600	0.1
14B	Sheepscot sandy loam, 0 to 5 percent slopes	1,180	0.3
15	Searsport mucky peat	465	0.1
22A	Colton loamy fine sand, 0 to 3 percent slopes	550	0.1
22B	Colton loamy fine sand, 3 to 8 percent slopes	2,950	0.6
22C	Colton loamy fine sand, 8 to 15 percent slopes	2,410	0.5
22E	Colton loamy fine sand, 15 to 50 percent slopes	2,550	0.6
24A	Agawam very fine sandy loam, 0 to 3 percent slopes	875	0.2
24B	Agawam very fine sandy loam, 3 to 8 percent slopes	1,140	0.2
24C	Agawam very fine sandy loam, 8 to 15 percent slopes	500	0.1
26A	Windsor loamy fine sand, 0 to 3 percent slopes	1,670	0.4
26B	Windsor loamy fine sand, 3 to 8 percent slopes	2,720	0.6
26C	Windsor loamy fine sand, 8 to 15 percent slopes	1,160	0.3
26E	Windsor loamy fine sand, 15 to 50 percent slopes	1,860	0.4
30A	Unadilla very fine sandy loam, 0 to 3 percent slopes	715	0.2
30B	Unadilla very fine sandy loam, 3 to 8 percent slopes	650	0.1
30C	Unadilla very fine sandy loam, 8 to 15 percent slopes	240	0.1
36A	Adams loamy sand, 0 to 3 percent slopes	820	0.2
36B	Adams loamy sand, 3 to 8 percent slopes	730	0.2
36C	Adams loamy sand, 8 to 15 percent slopes	900	0.2
36E	Adams loamy sand, 15 to 50 percent slopes	860	0.2
56B	Becket fine sandy loam, 3 to 8 percent slopes	780	0.2
56C	Becket fine sandy loam, 8 to 15 percent slopes	575	0.1
57B	Becket fine sandy loam, 3 to 8 percent slopes, very stony	510	0.1
57C	Becket fine sandy loam, 8 to 15 percent slopes, very stony	2,460	0.5
57D	Becket fine sandy loam, 15 to 25 percent slopes, very stony	2,640	0.6
60B	Tunbridge-Berkshire complex, 3 to 8 percent slopes, very stony	3,100	0.7
60C	Tunbridge-Berkshire complex, 8 to 15 percent slopes, very stony	15,920	3.4
60D	Tunbridge-Berkshire complex, 15 to 25 percent slopes, very stony	14,400	3.0
61B	Tunbridge-Lyman-Rock outcrop complex, 3 to 8 percent slopes	700	0.2
61C	Tunbridge-Lyman-Rock outcrop complex, 8 to 15 percent slopes	21,780	4.7
61D	Tunbridge-Lyman-Rock outcrop complex, 15 to 25 percent slopes	39,400	8.5
72B	Berkshire fine sandy loam, 3 to 8 percent slopes	1,180	0.3
72C	Berkshire fine sandy loam, 8 to 15 percent slopes	1,730	0.4
72D	Berkshire fine sandy loam, 15 to 25 percent slopes	935	0.2
73B	Berkshire fine sandy loam, 3 to 8 percent slopes, very stony	2,110	0.5
73C	Berkshire fine sandy loam, 8 to 15 percent slopes, very stony	11,960	2.5
73D	Berkshire fine sandy loam, 15 to 25 percent slopes, very stony	10,770	2.4
76B	Marlow fine sandy loam, 3 to 8 percent slopes	3,150	0.7
76C	Marlow fine sandy loam, 8 to 15 percent slopes	5,130	1.1
76D	Marlow fine sandy loam, 15 to 25 percent slopes	2,310	0.5
77B	Marlow fine sandy loam, 3 to 8 percent slopes, very stony	3,070	0.7
77C	Marlow fine sandy loam, 8 to 15 percent slopes, very stony	16,050	3.4
77D	Marlow fine sandy loam, 15 to 25 percent slopes, very stony	21,420	4.6
77E	Marlow fine sandy loam, 25 to 50 percent slopes, very stony	5,560	1.2
78B	Peru fine sandy loam, 3 to 8 percent slopes	2,140	0.5
78C	Peru fine sandy loam, 8 to 15 percent slopes	520	0.1
79B	Peru fine sandy loam, 3 to 8 percent slopes, very stony	5,140	1.1
79C	Peru fine sandy loam, 8 to 15 percent slopes, very stony	3,030	0.7
79D	Peru fine sandy loam, 15 to 25 percent slopes, very stony	420	0.1
107	Rippowam-Saco complex	2,430	0.5
108	Hadley silt loam	345	0.1
109	Limerick silt loam	445	0.1
142B	Monadnock fine sandy loam, 3 to 8 percent slopes	720	0.2
142C	Monadnock fine sandy loam, 8 to 15 percent slopes	1,470	0.3
143B	Monadnock fine sandy loam, 3 to 8 percent slopes, very stony	2,350	0.5

See footnote at end of table.

TABLE 4.--ACREAGE AND PROPORTIONATE EXTENT OF THE SOILS--Continued

Map symbol	Soil name	Acres	Percent
143C	Monadnock fine sandy loam, 8 to 15 percent slopes, very stony	11,240	2.4
143D	Monadnock fine sandy loam, 15 to 25 percent slopes, very stony	8,590	1.9
161E	Lyman-Tunbridge-Rock outcrop complex, 25 to 50 percent slopes	28,310	6.1
168B	Sunapee fine sandy loam, 3 to 8 percent slopes	1,830	0.4
169B	Sunapee fine sandy loam, 3 to 8 percent slopes, very stony	6,200	1.4
169C	Sunapee fine sandy loam, 8 to 15 percent slopes, very stony	3,050	0.7
197	Borohemists, ponded	4,850	1.1
214	Naumburg loamy fine sand	1,760	0.4
218	Raynham-Wareham complex, occasionally flooded	740	0.2
230E	Poocham very fine sandy loam, 25 to 70 percent slopes	1,530	0.3
295	Greenwood mucky peat	5,870	1.3
298	Pits, gravel	830	0.2
299	Udorthents, smoothed	790	0.2
330B	Bernardston silt loam, 3 to 8 percent slopes	1,280	0.3
330C	Bernardston silt loam, 8 to 15 percent slopes	3,650	0.8
330D	Bernardston silt loam, 15 to 25 percent slopes	3,760	0.8
331C	Bernardston silt loam, 8 to 15 percent slopes, very stony	1,580	0.3
331D	Bernardston silt loam, 15 to 25 percent slopes, very stony	4,440	1.0
331E	Bernardston silt loam, 25 to 50 percent slopes, very stony	3,450	0.8
334B	Pittstown silt loam, 3 to 8 percent slopes	1,960	0.4
334C	Pittstown silt loam, 8 to 15 percent slopes	1,170	0.3
336B	Pittstown silt loam, 3 to 8 percent slopes, very stony	1,950	0.4
336C	Pittstown silt loam, 8 to 15 percent slopes, very stony	1,720	0.4
340B	Stissing silt loam, 0 to 5 percent slopes	900	0.2
341B	Stissing silt loam, 0 to 5 percent slopes, very stony	1,320	0.3
347B	Lyme and Moosilauke soils, 0 to 5 percent slopes, very stony	9,560	2.1
360B	Cardigan-Kearsarge complex, 3 to 8 percent slopes	1,010	0.2
360C	Cardigan-Kearsarge complex, 8 to 15 percent slopes	5,800	1.3
360D	Cardigan-Kearsarge complex, 15 to 25 percent slopes	5,740	1.3
361C	Cardigan-Kearsarge-Rock outcrop complex, 8 to 15 percent slopes	3,300	0.7
361D	Cardigan-Kearsarge-Rock outcrop complex, 15 to 25 percent slopes	8,090	1.8
362E	Kearsarge-Cardigan-Rock outcrop complex, 25 to 50 percent slopes	10,290	2.2
365C	Berkshire and Monadnock soils, 8 to 15 percent slopes, extremely stony	4,860	1.1
365D	Berkshire and Monadnock soils, 15 to 25 percent slopes, extremely stony	7,480	1.6
365E	Berkshire and Monadnock soils, 25 to 50 percent slopes, extremely stony	8,550	1.9
366B	Dutchess silt loam, 3 to 8 percent slopes	530	0.1
366C	Dutchess silt loam, 8 to 15 percent slopes	1,450	0.3
366D	Dutchess silt loam, 15 to 25 percent slopes	810	0.2
367C	Dutchess silt loam, 8 to 15 percent slopes, very stony	2,840	0.6
367D	Dutchess silt loam, 15 to 25 percent slopes, very stony	2,860	0.6
367E	Dutchess silt loam, 25 to 50 percent slopes, very stony	2,560	0.6
395	Chocorua mucky peat	3,530	0.8
399	Rock outcrop	1,290	0.3
401	Occum fine sandy loam	1,710	0.4
410A	Haven very fine sandy loam, 0 to 3 percent slopes	270	0.1
410B	Haven very fine sandy loam, 3 to 8 percent slopes	585	0.1
410C	Haven very fine sandy loam, 8 to 15 percent slopes	430	0.1
414	Moosilauke fine sandy loam	1,410	0.3
495	Ossipee mucky peat	2,590	0.6
510B	Hoosic gravelly fine sandy loam, 3 to 8 percent slopes	935	0.2
510C	Hoosic gravelly fine sandy loam, 8 to 15 percent slopes	470	0.1
510E	Hoosic gravelly fine sandy loam, 15 to 50 percent slopes	1,020	0.2
513A	Ninigret very fine sandy loam, 0 to 3 percent slopes	440	0.1
513B	Ninigret very fine sandy loam, 3 to 8 percent slopes	505	0.1
526A	Caesar loamy sand, 0 to 3 percent slopes	2,030	0.4
526B	Caesar loamy sand, 3 to 8 percent slopes	2,170	0.5
526C	Caesar loamy sand, 8 to 15 percent slopes	605	0.1
526E	Caesar loamy sand, 15 to 50 percent slopes	1,090	0.2
531A	Scio very fine sandy loam, 0 to 3 percent slopes	260	0.1
531B	Scio very fine sandy loam, 3 to 8 percent slopes	300	0.1
533	Raynham silt loam	450	0.1
558B	Skerry fine sandy loam, 3 to 8 percent slopes	260	0.1

See footnote at end of table.

TABLE 4.--ACREAGE AND PROPORTIONATE EXTENT OF THE SOILS--Continued

Map symbol	Soil name	Acres	Percent
559B	Skerry fine sandy loam, 3 to 8 percent slopes, very stony	2,130	0.5
559C	Skerry fine sandy loam, 8 to 15 percent slopes, very stony	1,370	0.3
613B	Croghan loamy fine sand, 0 to 5 percent slopes	1,890	0.4
646B	Pillsbury fine sandy loam, 0 to 5 percent slopes	510	0.1
647B	Pillsbury fine sandy loam, 0 to 5 percent slopes, very stony	5,170	1.1
771C	Berkshire and Monadnock soils, 8 to 15 percent slopes, extremely bouldery	2,600	0.6
771D	Berkshire and Monadnock soils, 15 to 35 percent slopes, extremely bouldery	2,240	0.5
	Water areas less than 40 acres in size	956	0.2
	Total	457,856	100.0

* Less than 0.1 percent.

TABLE 5.--PRIME FARMLAND

(Only the soils considered prime farmland are listed. Urban or built-up areas of the soils listed are not considered prime farmland. If a soil is prime farmland only under certain conditions, the conditions are specified in parentheses after the soil name)

Map symbol	Soil name
4	Pootatuck fine sandy loam
9	Winooski silt loam
24A	Agawam very fine sandy loam, 0 to 3 percent slopes
24B	Agawam very fine sandy loam, 3 to 8 percent slopes
30A	Unadilla very fine sandy loam, 0 to 3 percent slopes
56B	Becket fine sandy loam, 3 to 8 percent slopes
72B	Berkshire fine sandy loam, 3 to 8 percent slopes
76B	Marlow fine sandy loam, 3 to 8 percent slopes
78B	Peru fine sandy loam, 3 to 8 percent slopes
108	Hadley silt loam
142B	Monadnock fine sandy loam, 3 to 8 percent slopes
168B	Sunapee fine sandy loam, 3 to 8 percent slopes
330B	Bernardston silt loam, 3 to 8 percent slopes
334B	Pittstown silt loam, 3 to 8 percent slopes
366B	Dutchess silt loam, 3 to 8 percent slopes
401	Occum fine sandy loam
410A	Haven very fine sandy loam, 0 to 3 percent slopes
410B	Haven very fine sandy loam, 3 to 8 percent slopes
513A	Ninigret very fine sandy loam, 0 to 3 percent slopes
513B	Ninigret very fine sandy loam, 3 to 8 percent slopes
531A	Scio very fine sandy loam, 0 to 3 percent slopes
558B	Skerry fine sandy loam, 3 to 8 percent slopes

TABLE 6.--LAND CAPABILITY CLASSES AND YIELDS PER ACRE OF CROPS AND PASTURE

(Yields are those that can be expected under a high level of management. Absence of a yield indicates that the soil is not suited to the crop or the crop generally is not grown on the soil)

Soil name and map symbol	Land capability	Corn silage	Grass hay	Grass-legume hay	Grass-clover
		Tons	Tons	Tons	AUM*
2-------------------------- Suncook	IIIs	12	2.0	2.0	3.2
4-------------------------- Pootatuck	IIw	24	4.5	4.5	7.2
5-------------------------- Rippowam	IVw	---	3.0	3.0	4.8
6-------------------------- Saco	VIw	---	---	---	---
9-------------------------- Winooski	IIw	26	---	4.0	6.4
10B------------------------ Merrimac	IIs	18	---	3.0	4.8
10C------------------------ Merrimac	IIIe	16	---	3.0	4.8
14B------------------------ Sheepscot	IIe	19	4.0	3.4	5.4
15------------------------- Searsport	Vw	---	---	---	---
22A------------------------ Colton	IIIs	12	---	2.0	3.2
22B------------------------ Colton	IIIs	12	---	2.0	3.2
22C------------------------ Colton	IVs	---	---	2.0	3.2
22E------------------------ Colton	VIIs	---	---	---	---
24A------------------------ Agawam	I	24	---	4.5	7.2
24B------------------------ Agawam	IIe	24	---	4.5	7.2
24C------------------------ Agawam	IIIe	22	---	4.0	6.4
26A, 26B------------------- Windsor	IIIs	14	2.0	2.5	4.0
26C------------------------ Windsor	IVs	12	2.0	2.5	4.0
26E------------------------ Windsor	VIIs	---	---	---	---

See footnotes at end of table.

TABLE 6.--LAND CAPABILITY CLASSES AND YIELDS PER ACRE OF CROPS AND PASTURE--Continued

Soil name and map symbol	Land capability	Corn silage	Grass hay	Grass-legume hay	Grass-clover
		Tons	Tons	Tons	AUM*
30A----------------------- Unadilla	I	24	---	3.5	5.6
30B----------------------- Unadilla	IIe	24	---	3.5	5.6
30C----------------------- Unadilla	IIIe	22	---	3.5	5.6
36A, 36B------------------ Adams	IIIs	12	---	2.5	4.0
36C----------------------- Adams	IVs	12	---	2.5	4.0
36E----------------------- Adams	VIIe	---	---	---	---
56B----------------------- Becket	IIe	22	3.5	3.5	5.6
56C----------------------- Becket	IIIe	20	3.5	3.5	5.6
57B, 57C, 57D------------- Becket	VIs	---	---	---	---
60B, 60C, 60D------------- Tunbridge-Berkshire	VIs	---	---	---	---
61B**--------------------- Tunbridge-Lyman-Rock outcrop	VIs	---	---	---	---
61C**--------------------- Tunbridge-Lyman-Rock outcrop	VIs	---	---	---	---
61D**--------------------- Tunbridge-Lyman-Rock outcrop	VIs	---	---	---	---
72B----------------------- Berkshire	IIe	22	---	4.0	6.4
72C----------------------- Berkshire	IIIe	20	---	3.5	5.6
72D----------------------- Berkshire	IVe	15	---	3.0	4.8
73B, 73C, 73D------------- Berkshire	VIs	---	---	---	---
76B----------------------- Marlow	IIe	22	4.0	4.0	6.4
76C----------------------- Marlow	IIIe	20	4.0	4.0	6.4

See footnotes at end of table.

TABLE 6.--LAND CAPABILITY CLASSES AND YIELDS PER ACRE OF CROPS AND PASTURE--Continued

Soil name and map symbol	Land capability	Corn silage	Grass hay	Grass-legume hay	Grass-clover
		Tons	Tons	Tons	AUM*
76D----------------------- Marlow	IVe	18	3.5	3.5	5.6
77B, 77C------------------ Marlow	VIs	---	---	---	---
77D----------------------- Marlow	VIs	---	---	---	---
77E----------------------- Marlow	VIIs	---	---	---	---
78B----------------------- Peru	IIe	20	4.0	4.0	6.4
78C----------------------- Peru	IIIe	18	4.0	4.0	6.4
79B, 79C------------------ Peru	VIs	---	---	---	---
79D----------------------- Peru	VIs	---	---	---	---
107----------------------- Rippowam-Saco	VIw	---	---	---	---
108----------------------- Hadley	I	28	---	4.5	7.2
109----------------------- Limerick	IVw	---	---	---	---
142B---------------------- Monadnock	IIe	18	3.5	4.0	6.4
142C---------------------- Monadnock	IIIe	16	3.0	3.5	5.6
143B, 143C, 143D---------- Monadnock	VIs	---	---	---	---
161E**-------------------- Lyman-Tunbridge-Rock outcrop	VIIs	---	---	---	---
168B---------------------- Sunapee	IIw	20	3.0	---	4.8
169B, 169C---------------- Sunapee	VIs	---	---	---	---
197----------------------- Borohemists	VIIIw				
214----------------------- Naumburg	IVw	14	---	---	---
218----------------------- Raynham-Wareham	IVw	---	---	---	---

See footnotes at end of table.

TABLE 6.--LAND CAPABILITY CLASSES AND YIELDS PER ACRE OF CROPS AND PASTURE--Continued

Soil name and map symbol	Land capability	Corn silage	Grass hay	Grass-legume hay	Grass-clover
		Tons	Tons	Tons	AUM*
230E. Poocham	VIIe	---	---	---	---
295. Greenwood	VIIw	---	---	---	---
298**. Pits					
299. Udorthents					
330B. Bernardston	IIe	22	---	4.0	6.4
330C. Bernardston	IIIe	20	---	3.5	5.6
330D. Bernardston	IVe	18	---	3.0	4.8
331C, 331D. Bernardston	VIs	---	---	---	---
331E. Bernardston	VIIs	---	---	---	---
334B. Pittstown	IIe	20	---	3.5	5.6
334C. Pittstown	IIIe	18	---	3.5	5.6
336B, 336C. Pittstown	VIs	---	---	---	---
340B. Stissing	IIIw	18	3.0	3.0	4.8
341B. Stissing	VIIs	---	---	---	---
347B. Lyme and Moosilauke	VIIs	---	---	---	---
360B. Cardigan-Kearsarge	IIIe	18	3.1	---	5.0
360C. Cardigan-Kearsarge	IVe	17	2.8	---	4.5
360D. Cardigan-Kearsarge	VIe	---	---	---	---
361C**. Cardigan-Kearsarge-Rock outcrop	VIs	---	---	---	---
361D**. Cardigan-Kearsarge-Rock outcrop	VIs	---	---	---	---

See footnotes at end of table.

TABLE 6.--LAND CAPABILITY CLASSES AND YIELDS PER ACRE OF CROPS AND PASTURE--Continued

Soil name and map symbol	Land capability	Corn silage	Grass hay	Grass-legume hay	Grass-clover
		Tons	Tons	Tons	AUM*
362E**: Kearsarge-Cardigan-Rock outcrop	VIIs	---	---	---	---
365C, 365D, 365E: Berkshire and Monadnock	VIIs	---	---	---	---
366B: Dutchess	IIe	22	4.0	4.0	6.4
366C: Dutchess	IIIe	20	4.0	4.0	6.4
366D: Dutchess	IVe	17	3.5	3.5	5.6
367C, 367D: Dutchess	VIs	---	---	---	---
367E: Dutchess	VIIs	---	---	---	---
395: Chocorua	VIIIw	---	---	---	---
399**: Rock outcrop	VIIIs				
401: Occum	I	24	4.0	4.0	6.4
410A: Haven	I	24	---	4.5	7.2
410B: Haven	IIe	24	---	4.5	7.2
410C: Haven	IIIe	22	---	4.0	6.4
414: Moosilauke	IVw	---	---	---	---
495: Ossipee	VIIIw	---	---	---	---
510B: Hoosic	IIIs	18	4.0	3.0	4.8
510C: Hoosic	IIIe	15	4.0	3.0	4.8
510E: Hoosic	VIe	---	---	---	---
513A: Ninigret	IIw	22	4.0	4.0	6.4
513B: Ninigret	IIe	22	4.0	4.0	6.4

See footnotes at end of table.

TABLE 6.--LAND CAPABILITY CLASSES AND YIELDS PER ACRE OF CROPS AND PASTURE--Continued

Soil name and map symbol	Land capability	Corn silage	Grass hay	Grass-legume hay	Grass-clover
		Tons	Tons	Tons	AUM*
526A, 526B----------------- Caesar	IVs	12	2.0	2.0	3.2
526C----------------------- Caesar	IVs	10	2.0	2.0	3.2
526E----------------------- Caesar	VIs	---	---	---	---
531A----------------------- Scio	IIw	22	---	3.5	5.6
531B----------------------- Scio	IIe	22	---	3.5	5.6
533------------------------ Raynham	IVw	---	---	---	---
558B----------------------- Skerry	IIe	18	4.0	4.0	6.4
559B, 559C----------------- Skerry	VIs	---	---	---	---
613B----------------------- Croghan	IIw	14	---	3.0	4.8
646B----------------------- Pillsbury	IVw	---	---	---	---
647B----------------------- Pillsbury	VIIs	---	---	---	---
771C, 771D----------------- Berkshire and Monadnock	VIIs	---	---	---	---

* Animal-unit-month: The amount of forage or feed required to feed one animal unit (one cow, one horse, one mule, five sheep, or five goats) for 30 days.
** See description of the map unit for composition and behavior characteristics of the map unit.

TABLE 7.--WOODLAND MANAGEMENT AND PRODUCTIVITY

(Only the soils suitable for production of commercial trees are listed. Absence of an entry indicates that information was not available)

Soil name and map symbol	Ordination symbol	Management concerns: Erosion hazard	Equipment limitation	Seedling mortality	Windthrow hazard	Plant competition	Potential productivity: Common trees	Site index	Productivity class*	Trees to plant
2-----------------Suncook	6S	Slight	Slight	Severe	Slight	Slight	Eastern white pine--	55	6	Eastern white pine, red pine.
							Black oak-----------	50	2	
							Northern red oak----	50	2	
							Red maple-----------	50	2	
4-----------------Pootatuck	9A	Slight	Slight	Slight	Slight	Moderate	Eastern white pine--	70	9	Eastern white pine, white spruce.
							Red pine------------	75	8	
							Red maple-----------	60	3	
							Yellow birch--------	60	3	
5-----------------Rippowam	8W	Slight	Severe	Severe	Severe	Severe	Eastern white pine--	65	8	Eastern white pine, white spruce.
							Red maple-----------	75	3	
6-----------------Saco	6W	Slight	Severe	Severe	Severe	Severe	Eastern white pine--	50	6	
							Red maple-----------	50	2	
							Northern white-cedar	45	5	
9-----------------Winooski	10A	Slight	Slight	Slight	Slight	Moderate	Eastern white pine--	75	10	Eastern white pine, red pine, white spruce.
							Northern red oak----	70	4	
							White spruce--------	70	10	
							Sugar maple---------	65	3	
10B, 10C-----------Merrimac	8S	Slight	Slight	Moderate	Slight	Slight	Eastern white pine--	64	8	Eastern white pine, red pine.
							Northern red oak----	51	2	
							Sugar maple---------	45	2	
14B----------------Sheepscot	8A	Slight	Slight	Moderate	Slight	Moderate	Eastern white pine--	68	8	Eastern white pine, white spruce.
							White spruce--------	55	9	
							Red spruce----------	45	7	
							Balsam fir----------	55	8	
							Red maple-----------	65	3	
							American beech------	55	2	
							Paper birch---------	55	4	
							Sugar maple---------	55	2	
							Yellow birch--------	55	2	
							Northern white-cedar	55	6	
15-----------------Searsport	6W	Slight	Severe	Severe	Severe	Severe	Eastern white pine--	55	6	Northern white-cedar, European larch.
							Red maple-----------	64	3	
							Northern white-cedar	45	5	
							Black spruce--------	---	---	
							Balsam fir----------	53	7	
							European larch------	---	---	
							Tamarack------------	---	---	

See footnotes at end of table.

TABLE 7.--WOODLAND MANAGEMENT AND PRODUCTIVITY--Continued

Soil name and map symbol	Ordination symbol	Management concerns					Potential productivity			Trees to plant
		Erosion hazard	Equipment limitation	Seedling mortality	Windthrow hazard	Plant competition	Common trees	Site index	Productivity class*	
22A, 22B, 22C------ Colton	7S	Slight	Slight	Severe	Slight	Slight	Eastern white pine--	59	7	Eastern white pine, red pine.
							Red pine-----------	52	5	
							Red spruce----------	39	6	
							Sugar maple---------	45	2	
							White spruce--------	52	8	
22E---------------- Colton	7S	Slight	Moderate	Severe	Slight	Slight	Eastern white pine--	59	7	Eastern white pine, red pine.
							Red pine-----------	52	5	
							Red spruce----------	39	6	
							Sugar maple---------	45	2	
							White spruce--------	52	8	
24A, 24B, 24C------ Agawam	9A	Slight	Slight	Slight	Slight	Moderate	Eastern white pine--	70	9	Eastern white pine.
							Northern red oak----	65	3	
							Red pine-----------	70	3	
							Sugar maple---------	65	3	
26A, 26B, 26C------ Windsor	7S	Slight	Slight	Severe	Slight	Slight	Eastern white pine--	57	7	Eastern white pine, red pine, Norway spruce.
							Northern red oak----	54	3	
							Red pine-----------	61	7	
							Sugar maple---------	55	2	
26E---------------- Windsor	7S	Moderate	Moderate	Severe	Slight	Slight	Eastern white pine--	57	7	Eastern white pine, red pine, Norway spruce.
							Northern red oak----	54	3	
							Red pine-----------	61	7	
							Sugar maple---------	55	2	
30A, 30B----------- Unadilla	10A	Slight	Slight	Slight	Slight	Moderate	Eastern white pine--	85	10	Eastern white pine, red pine, white spruce.
							Sugar maple---------	70	3	
							Northern red oak----	80	4	
							Black cherry--------	80	4	
							White ash-----------	95	4	
30C---------------- Unadilla	10R	Moderate	Slight	Slight	Slight	Moderate	Eastern white pine--	85	10	Eastern white pine, red pine, white spruce.
							Sugar maple---------	70	3	
							Northern red oak----	80	4	
							Black cherry--------	80	4	
							White ash-----------	95	4	
36A, 36B, 36C------ Adams	6S	Slight	Slight	Severe	Slight	Slight	Red pine-----------	59	5	Eastern white pine, red pine, European larch.
							Sugar maple---------	50	6	
							American beech------	60	3	
36E---------------- Adams	6S	Slight	Moderate	Severe	Slight	Slight	Red pine-----------	59	5	Eastern white pine, red pine, European larch.
							Sugar maple---------	50	6	
							American beech------	60	3	

See footnotes at end of table.

TABLE 7.--WOODLAND MANAGEMENT AND PRODUCTIVITY--Continued

Soil name and map symbol	Ordination symbol	Management concerns: Erosion hazard	Equipment limitation	Seedling mortality	Windthrow hazard	Plant competition	Potential productivity: Common trees	Site index	Productivity class*	Trees to plant
56B, 56C, 57B, 57C- Becket	9A	Slight	Slight	Slight	Moderate	Moderate	Eastern white pine--	69	9	Eastern white pine, white spruce, red pine.
							Balsam fir----------	55	9	
							White spruce--------	55	9	
							Sugar maple---------	60	3	
							Paper birch---------	71	4	
57D---------------- Becket	9R	Moderate	Moderate	Slight	Moderate	Moderate	Eastern white pine--	69	9	Eastern white pine, white spruce, red pine.
							Balsam fir----------	55	9	
							White spruce--------	55	9	
							Sugar maple---------	60	3	
							Paper birch---------	71	4	
60B**, 60C**:										
Tunbridge---------	9A	Slight	Slight	Slight	Moderate	Slight	Eastern white pine--	70	9	Eastern white pine, white spruce.
							Northern red oak----	70	4	
							Sugar maple---------	60	3	
							Red spruce----------	45	7	
							Yellow birch--------	55	2	
							White spruce--------	55	9	
							White ash-----------	65	3	
Berkshire---------	8A	Slight	Slight	Slight	Slight	Moderate	Eastern white pine--	68	8	Eastern white pine, red pine, white spruce.
							Sugar maple---------	60	3	
							Red spruce----------	50	8	
							White ash-----------	62	3	
							Yellow birch--------	55	2	
							Paper birch---------	60	4	
							Balsam fir----------	55	9	
							White spruce--------	55	9	
							Red pine------------	65	8	
60D**:										
Tunbridge---------	9R	Moderate	Moderate	Moderate	Moderate	Slight	Eastern white pine--	70	9	Eastern white pine, white spruce.
							Northern red oak----	70	4	
							Sugar maple---------	60	3	
							Red spruce----------	45	7	
							Yellow birch--------	55	2	
							White spruce--------	55	9	
							White ash-----------	65	3	

See footnotes at end of table.

TABLE 7.--WOODLAND MANAGEMENT AND PRODUCTIVITY--Continued

Soil name and map symbol	Ordination symbol	Management concerns					Potential productivity			Trees to plant
		Erosion hazard	Equipment limitation	Seedling mortality	Windthrow hazard	Plant competition	Common trees	Site index	Productivity class*	
60D**:										
Berkshire	8R	Slight	Moderate	Slight	Slight	Moderate	Eastern white pine	68	8	Eastern white pine, red pine, white spruce.
							Sugar maple	60	3	
							Red spruce	50	8	
							White ash	62	3	
							Yellow birch	55	2	
							Paper birch	60	4	
							Balsam fir	55	9	
							White spruce	55	9	
							Red pine	65	8	
61B**, 61C**:										
Tunbridge	9A	Slight	Slight	Slight	Moderate	Slight	Eastern white pine	70	9	Eastern white pine, white spruce.
							Northern red oak	70	4	
							Sugar maple	60	3	
							Red spruce	45	7	
							Yellow birch	55	2	
							White spruce	55	9	
							White ash	65	3	
Lyman	6D	Slight	Slight	Moderate	Severe	Moderate	Eastern white pine	54	6	Eastern white pine, white spruce.
							Sugar maple	50	2	
							White spruce	55	9	
							Balsan fir	60	8	
							Red spruce	40	6	
Rock outcrop.										
61D**:										
Tunbridge	9R	Moderate	Moderate	Moderate	Moderate	Slight	Eastern white pine	70	9	Eastern white pine, white spruce.
							Northern red oak	70	4	
							Sugar maple	60	3	
							Red spruce	45	7	
							Yellow birch	55	2	
							White spruce	55	9	
							White ash	65	3	
Lyman	6D	Moderate	Moderate	Moderate	Severe	Moderate	Eastern white pine	54	6	Eastern white pine, white spruce.
							Sugar maple	50	2	
							White spruce	55	9	
							Balsam fir	60	8	
							Red spruce	40	6	
Rock outcrop.										

See footnotes at end of table.

TABLE 7.--WOODLAND MANAGEMENT AND PRODUCTIVITY--Continued

Soil name and map symbol	Ordination symbol	Management concerns					Potential productivity			Trees to plant
		Erosion hazard	Equipment limitation	Seedling mortality	Windthrow hazard	Plant competition	Common trees	Site index	Productivity class*	
72B, 72C----------- Berkshire	8A	Slight	Slight	Slight	Slight	Moderate	Eastern white pine--	68	8	Eastern white pine, red pine, white spruce.
							Sugar maple---------	60	3	
							Red spruce----------	50	8	
							White ash-----------	62	3	
							Yellow birch--------	55	2	
							Paper birch---------	60	4	
							Balsam fir----------	55	9	
							White spruce--------	55	9	
							Red pine------------	65	8	
72D---------------- Berkshire	8R	Slight	Moderate	Slight	Slight	Moderate	Eastern white pine--	68	8	Eastern white pine, red pine, white spruce.
							Sugar maple---------	60	3	
							Red spruce----------	50	8	
							White ash-----------	62	3	
							Yellow birch--------	55	2	
							Paper birch---------	60	4	
							Balsam fir----------	55	9	
							White spruce--------	55	9	
							Red pine------------	65	8	
73B, 73C----------- Berkshire	8A	Slight	Slight	Slight	Slight	Moderate	Eastern white pine--	68	8	Eastern white pine, red pine, white spruce.
							Sugar maple---------	60	3	
							Red spruce----------	50	8	
							White ash-----------	62	3	
							Yellow birch--------	55	2	
							Paper birch---------	60	4	
							Balsam fir----------	55	9	
							White spruce--------	55	9	
							Red pine------------	65	8	
73D---------------- Berkshire	8R	Slight	Moderate	Slight	Slight	Moderate	Eastern white pine--	68	8	Eastern white pine, red pine, white spruce.
							Sugar maple---------	60	3	
							Red spruce----------	50	8	
							White ash-----------	62	3	
							Yellow birch--------	55	2	
							Paper birch---------	60	4	
							Balsam fir----------	55	9	
							White spruce--------	55	9	
							Red pine------------	65	8	

See footnotes at end of table.

TABLE 7.--WOODLAND MANAGEMENT AND PRODUCTIVITY--Continued

Soil name and map symbol	Ordination symbol	Management concerns: Erosion hazard	Equipment limitation	Seedling mortality	Windthrow hazard	Plant competition	Potential productivity: Common trees	Site index	Productivity class*	Trees to plant
76B, 76C----------- Marlow	8A	Slight	Slight	Slight	Moderate	Moderate	Eastern white pine--	66	8	Eastern white pine, white spruce, red pine.
							Balsam fir----------	58	8	
							Red spruce----------	48	7	
							Sugar maple---------	60	3	
							Red pine------------	65	8	
							Yellow birch--------	62	3	
							Paper birch---------	60	4	
							White spruce--------	60	10	
							White ash-----------	67	3	
							American beech------	62	3	
							Northern red oak----	67	3	
							American basswood---	56	2	
76D---------------- Marlow	8R	Moderate	Moderate	Slight	Moderate	Moderate	Eastern white pine--	66	8	Eastern white pine, white spruce, red pine.
							Balsam fir----------	58	8	
							Red spruce----------	48	7	
							Sugar maple---------	60	3	
							Red pine------------	65	8	
							Yellow birch--------	62	3	
							Paper birch---------	60	4	
							White spruce--------	60	10	
							White ash-----------	67	3	
							American beech------	62	3	
							Northern red oak----	67	3	
							American basswood---	56	2	
77B, 77C----------- Marlow	8A	Slight	Slight	Slight	Moderate	Moderate	Eastern white pine--	66	8	Eastern white pine, white spruce, red pine.
							Balsam fir----------	58	8	
							Red spruce----------	48	7	
							Sugar maple---------	60	3	
77D---------------- Marlow	8R	Moderate	Moderate	Slight	Moderate	Moderate	Eastern white pine--	66	8	Eastern white pine, white spruce, red pine.
							Balsam fir----------	58	8	
							Red spruce----------	48	7	
							Sugar maple---------	60	3	
77E---------------- Marlow	8R	Severe	Severe	Slight	Moderate	Moderate	Eastern white pine--	66	8	Eastern white pine, white spruce, red pine.
							Balsam fir----------	58	8	
							Red spruce----------	48	7	
							Sugar maple---------	60	3	

See footnotes at end of table.

TABLE 7.--WOODLAND MANAGEMENT AND PRODUCTIVITY--Continued

Soil name and map symbol	Ordination symbol	Management concerns: Erosion hazard	Management concerns: Equipment limitation	Management concerns: Seedling mortality	Management concerns: Windthrow hazard	Management concerns: Plant competition	Potential productivity: Common trees	Potential productivity: Site index	Potential productivity: Productivity class*	Trees to plant
78B, 78C: Peru	8A	Slight	Slight	Slight	Moderate	Moderate	Eastern white pine	67	8	Eastern white pine, white spruce.
							Sugar maple	60	3	
							Northern red oak	67	3	
							Red spruce	39	6	
							Balsam fir	55	8	
							White spruce	53	8	
							White ash	64	3	
							Red pine	61	7	
79B, 79C: Peru	8A	Slight	Slight	Slight	Moderate	Moderate	Eastern white pine	67	8	Eastern white pine, white spruce.
							Sugar maple	60	3	
							Northern red oak	70	4	
							Red spruce	39	6	
							Balsam fir	55	8	
							White spruce	53	8	
							White ash	64	3	
							Red pine	61	7	
79D: Peru	8R	Moderate	Moderate	Slight	Moderate	Moderate	Eastern white pine	67	8	Eastern white pine, white spruce.
							Sugar maple	60	3	
							Northern red oak	70	4	
							Red spruce	39	6	
							Balsam fir	55	8	
							White spruce	53	8	
							White ash	64	3	
							Red pine	61	7	
107**:										
Rippowam	7W	Slight	Severe	Severe	Severe	Severe	Eastern white pine	56	7	Eastern white pine, white spruce.
							Red maple	75	3	
Saco	6W	Slight	Severe	Severe	Severe	Severe	Eastern white pine	50	6	
							Red maple	50	2	
108: Hadley	9A	Slight	Slight	Slight	Slight	Severe	Eastern white pine	70	9	Eastern white pine, white spruce.
							Sugar maple	63	3	
							Red pine	70	8	
109: Limerick	7W	Slight	Severe	Severe	Severe	Severe	Red maple	60	7	Eastern white pine, white spruce.
							Eastern white pine	65	8	
142B, 142C, 143B, 143C: Monadnock	8A	Slight	Slight	Slight	Slight	Moderate	Eastern white pine	63	8	Eastern white pine, red pine, white spruce.
							Northern red oak	55	3	
							Red pine	60	6	
							White spruce	55	9	

See footnotes at end of table.

TABLE 7.--WOODLAND MANAGEMENT AND PRODUCTIVITY--Continued

Soil name and map symbol	Ordination symbol	Management concerns					Potential productivity			Trees to plant
		Erosion hazard	Equipment limitation	Seedling mortality	Windthrow hazard	Plant competition	Common trees	Site index	Productivity class*	
143D----------------- Monadnock	8R	Moderate	Moderate	Slight	Slight	Moderate	Eastern white pine-- Northern red oak---- Red pine------------ White spruce---------	63 55 60 55	8 3 6 9	Eastern white pine, red pine, white spruce.
161E**:										
Lyman---------------	6R	Severe	Severe	Moderate	Severe	Moderate	Eastern white pine-- Sugar maple--------- White spruce-------- Balsam fir---------- Red spruce----------	54 50 55 60 40	6 2 9 8 6	Eastern white pine, white spruce.
Tunbridge-----------	9R	Severe	Severe	Severe	Moderate	Slight	Eastern white pine-- Northern red oak---- Sugar maple--------- Red spruce---------- Yellow birch-------- White spruce-------- White ash-----------	70 70 60 45 55 55 65	9 4 3 7 2 9 3	Eastern white pine, white spruce.
Rock outcrop.										
168B, 169B, 169C--- Sunapee	9A	Slight	Slight	Slight	Slight	Moderate	Eastern white pine-- Northern red oak---- Sugar maple--------- Red spruce---------- Balsam fir---------- White spruce--------	72 70 60 45 48 55	9 4 3 7 7 9	Eastern white pine, red pine, white spruce.
214----------------- Naumburg	8W	Slight	Moderate	Severe	Moderate	Severe	Eastern white pine-- Sugar maple--------- Red maple-----------	65 55 70	8 2 3	Eastern white pine, white spruce.
218**:										
Raynham-------------	8W	Slight	Severe	Severe	Severe	Severe	Eastern white pine-- Red maple----------- Red spruce---------- Red maple-----------	65 68 45 60	8 3 7 3	Eastern white pine, white spruce.
Wareham-------------	8W	Slight	Severe	Severe	Severe	Severe	Eastern white pine-- Red maple----------- Red spruce----------	65 65 45	8 3 7	Eastern white pine, white spruce.
230E---------------- Poocham	10R	Severe	Severe	Slight	Slight	Moderate	Eastern white pine-- Sugar maple--------- Northern red oak---- White ash-----------	85 70 80 95	10 3 4 4	Eastern white pine, black cherry.

See footnotes at end of table.

TABLE 7.--WOODLAND MANAGEMENT AND PRODUCTIVITY--Continued

Soil name and map symbol	Ordination symbol	Management concerns: Erosion hazard	Management concerns: Equipment limitation	Management concerns: Seedling mortality	Management concerns: Windthrow hazard	Management concerns: Plant competition	Potential productivity: Common trees	Potential productivity: Site index	Potential productivity: Productivity class*	Trees to plant
295----------------- Greenwood	6W	Slight	Severe	Severe	Severe	Severe	Eastern white pine--	50	6	
							Balsam fir----------	39	5	
							Red maple-----------	50	2	
330B, 330C--------- Bernardston	8A	Slight	Slight	Slight	Slight	Moderate	Eastern white pine--	65	8	Eastern white pine, white spruce.
							Northern red oak----	55	3	
							Sugar maple---------	65	3	
							Eastern hemlock-----	65	---	
330D--------------- Bernardston	8R	Slight	Moderate	Slight	Slight	Moderate	Eastern white pine--	65	8	Eastern white pine, balsam fir, white spruce.
							Northern red oak----	55	3	
							Sugar maple---------	65	3	
							Eastern hemlock-----	65	---	
331C--------------- Bernardston	8A	Slight	Slight	Slight	Slight	Moderate	Eastern white pine--	65	8	Eastern white pine, balsam fir, white spruce.
							Northern red oak----	55	3	
							Sugar maple---------	65	3	
							Eastern hemlock-----	65	---	
331D--------------- Bernardston	8R	Slight	Moderate	Slight	Slight	Moderate	Eastern white pine--	65	8	Eastern white pine, balsam fir, white spruce.
							Northern red oak----	55	3	
							Sugar maple---------	65	3	
							Eastern hemlock-----	65	---	
331E--------------- Bernardston	8R	Moderate	Severe	Slight	Slight	Moderate	Eastern white pine--	65	8	Eastern white pine, balsam fir, white spruce.
							Northern red oak----	55	3	
							Sugar maple---------	65	3	
							Eastern hemlock-----	65	---	
334B, 334C, 336B, 336C-------------- Pittstown	9A	Slight	Slight	Slight	Slight	Moderate	Eastern white pine--	74	9	Eastern white pine, white spruce.
							Sugar maple---------	66	3	
							Northern red oak----	72	4	
							Red spruce----------	50	8	
340B, 341B--------- Stissing	8W	Slight	Severe	Severe	Severe	Severe	Eastern white pine--	65	8	Eastern white pine, white spruce.
							Red spruce----------	40	6	
							Sugar maple---------	60	3	
347B**:										
Lyme--------------	8W	Slight	Severe	Moderate	Severe	Severe	Red spruce----------	50	8	Eastern white pine, white spruce.
							Eastern white pine--	70	9	
							Red maple-----------	65	3	
							Balsam fir----------	55	8	

See footnotes at end of table.

TABLE 7.--WOODLAND MANAGEMENT AND PRODUCTIVITY--Continued

Soil name and map symbol	Ordination symbol	Management concerns: Erosion hazard	Equipment limitation	Seedling mortality	Windthrow hazard	Plant competition	Potential productivity: Common trees	Site index	Productivity class*	Trees to plant
347B**:										
Moosilauke	8W	Slight	Severe	Moderate	Severe	Severe	Eastern white pine	65	8	Eastern white pine, white spruce.
							Red maple	78	3	
							Red spruce	55	9	
							Yellow birch	50	2	
							Balsam fir	50	8	
360B**, 360C**:										
Cardigan	9A	Slight	Slight	Moderate	Moderate	Moderate	Eastern white pine	73	9	Eastern white pine, red pine.
							Sugar maple	65	3	
							Northern red oak	65	3	
Kearsarge	9D	Slight	Slight	Moderate	Severe	Slight	Eastern white pine	70	9	Eastern white pine, white spruce.
							Northern red oak	65	3	
							Sugar maple	60	3	
360D**:										
Cardigan	9R	Moderate	Moderate	Moderate	Moderate	Moderate	Eastern white pine	73	9	Eastern white pine, red pine.
							Sugar maple	65	3	
							Northern red oak	65	3	
Kearsarge	9D	Moderate	Moderate	Moderate	Severe	Slight	Eastern white pine	70	9	Eastern white pine, white spruce.
							Northern red oak	65	3	
							Sugar maple	60	3	
361C**:										
Cardigan	9A	Slight	Slight	Moderate	Moderate	Moderate	Eastern white pine	73	9	Eastern white pine, red pine.
							Northern red oak	65	3	
							Sugar maple	65	3	
Kearsarge	9D	Slight	Slight	Moderate	Severe	Slight	Eastern white pine	70	9	Eastern white pine, white spruce.
							Northern red oak	65	3	
							Sugar maple	60	3	
Rock outcrop.										
361D**:										
Cardigan	9R	Moderate	Moderate	Moderate	Moderate	Moderate	Eastern white pine	73	9	Eastern white pine, red pine.
							Northern red oak	65	3	
							Sugar maple	65	3	
Kearsarge	9D	Moderate	Moderate	Moderate	Severe	Slight	Eastern white pine	70	9	Eastern white pine, white spruce.
							Northern red oak	65	3	
							Sugar maple	60	3	
Rock outcrop.										

See footnotes at end of table.

TABLE 7.--WOODLAND MANAGEMENT AND PRODUCTIVITY--Continued

Soil name and map symbol	Ordination symbol	Management concerns: Erosion hazard	Equipment limitation	Seedling mortality	Windthrow hazard	Plant competition	Potential productivity: Common trees	Site index	Productivity class*	Trees to plant
362E**:										
Kearsarge----------	9R	Severe	Severe	Moderate	Severe	Slight	Eastern white pine--	70	9	Eastern white pine, white spruce.
							Northern red oak----	65	3	
							Sugar maple---------	60	3	
Cardigan----------	9R	Severe	Severe	Moderate	Moderate	Moderate	Eastern white pine--	73	9	Eastern white pine, red pine.
							Northern red oak----	65	3	
							Sugar maple---------	65	3	
Rock outcrop.										
365C**:										
Berkshire----------	8X	Slight	Moderate	Slight	Slight	Moderate	Eastern white pine--	68	8	Eastern white pine, red pine, white spruce.
							Sugar maple---------	60	3	
							Red spruce----------	50	8	
							White ash-----------	62	3	
							Yellow birch--------	55	2	
							Paper birch---------	60	4	
							Balsam fir----------	55	9	
							White spruce--------	55	9	
							Red pine------------	65	8	
Monadnock----------	8X	Slight	Slight	Slight	Slight	Moderate	Eastern white pine--	63	8	Eastern white pine, red pine, white spruce.
							Northern red oak----	55	3	
							Red pine------------	60	6	
							White spruce--------	55	9	
365D**:										
Berkshire----------	8X	Slight	Moderate	Slight	Slight	Moderate	Eastern white pine--	68	8	Eastern white pine, red pine, white spruce.
							Sugar maple---------	60	3	
							Red spruce----------	50	8	
							White ash-----------	62	3	
							Yellow birch--------	55	2	
							Paper birch---------	60	4	
							Balsam fir----------	55	9	
							White spruce--------	55	9	
							Red pine------------	65	8	
Monadnock----------	8X	Moderate	Moderate	Slight	Slight	Moderate	Eastern white pine--	63	8	Eastern white pine, red pine, white spruce.
							Northern red oak----	55	3	
							Red pine------------	60	6	
							White spruce--------	55	9	

See footnotes at end of table.

TABLE 7.--WOODLAND MANAGEMENT AND PRODUCTIVITY--Continued

Soil name and map symbol	Ordination symbol	Management concerns: Erosion hazard	Equipment limitation	Seedling mortality	Windthrow hazard	Plant competition	Potential productivity: Common trees	Site index	Productivity class*	Trees to plant
365E**:										
Berkshire	8R	Moderate	Severe	Slight	Slight	Moderate	Eastern white pine	68	8	Eastern white pine, red pine, white spruce.
							Sugar maple	60	3	
							Red spruce	50	8	
							White ash	62	3	
							Yellow birch	55	2	
							Paper birch	60	4	
							Balsam fir	55	9	
							White spruce	55	9	
							Red pine	65	8	
Monadnock	8R	Severe	Severe	Slight	Slight	Moderate	Eastern white pine	63	8	Eastern white pine, red pine, white spruce.
							Northern red oak	55	3	
							Red pine	60	6	
							White spruce	55	9	
366B, 366C Dutchess	9A	Slight	Slight	Slight	Slight	Slight	Eastern white pine	70	9	Eastern white pine, red pine.
							Northern red oak	68	4	
							Sugar maple	60	3	
366D Dutchess	9R	Moderate	Moderate	Slight	Slight	Slight	Eastern white pine	70	9	Eastern white pine, red pine.
							Northern red oak	68	4	
							Sugar maple	60	3	
367C Dutchess	9A	Slight	Slight	Slight	Slight	Slight	Eastern white pine	70	9	Eastern white pine, red pine.
							Northern red oak	68	4	
							Sugar maple	60	3	
367D Dutchess	9R	Moderate	Moderate	Slight	Slight	Slight	Eastern white pine	70	9	Eastern white pine, red pine.
							Northern red oak	68	4	
							Sugar maple	60	3	
367E Dutchess	9R	Severe	Severe	Slight	Slight	Slight	Eastern white pine	70	9	Eastern white pine, red pine.
							Northern red oak	68	4	
							Sugar maple	60	3	
395 Chocorua	2W	Slight	Severe	Severe	Severe	Severe	Black spruce	25	2	
							Tamarack	---	---	
							Balsam fir	---	---	
							Yellow birch	---	---	
							Speckled alder	---	---	
							Black ash	---	---	

See footnotes at end of table.

TABLE 7.--WOODLAND MANAGEMENT AND PRODUCTIVITY--Continued

Soil name and map symbol	Ordination symbol	Management concerns: Erosion hazard	Management concerns: Equipment limitation	Management concerns: Seedling mortality	Management concerns: Windthrow hazard	Management concerns: Plant competition	Potential productivity: Common trees	Potential productivity: Site index	Potential productivity: Productivity class*	Trees to plant
401---------------- Occum	9A	Slight	Slight	Slight	Slight	Moderate	Eastern white pine-- Northern red oak---- Sugar maple---------	70 68 60	9 4 3	Eastern white pine, white spruce, red pine.
410A, 410B, 410C--- Haven	10A	Slight	Slight	Slight	Slight	Moderate	Eastern white pine-- Northern red oak---- Sugar maple--------- Red pine------------	75 68 65 75	10 4 3 8	Eastern white pine, red pine, white spruce.
414---------------- Moosilauke	8W	Slight	Severe	Moderate	Severe	Severe	Eastern white pine-- Red maple----------- Red spruce---------- Yellow birch-------- Balsam fir----------	65 78 55 50 50	8 3 9 2 8	Eastern white pine, white spruce.
495---------------- Ossipee	2W	Slight	Severe	Severe	Severe	Severe	Black spruce-------- Tamarack------------ Balsam fir---------- Yellow birch-------- Black ash-----------	25 --- --- --- ---	2 --- --- --- ---	
510B, 510C--------- Hoosic	9A	Slight	Slight	Slight	Slight	Slight	Eastern white pine-- Sugar maple--------- Northern red oak----	70 65 75	9 3 4	Eastern white pine, red pine, white spruce.
510E--------------- Hoosic	9R	Slight	Moderate	Slight	Slight	Slight	Eastern white pine-- Sugar maple--------- Northern red oak----	70 65 75	9 3 4	Eastern white pine, red pine, white spruce.
513A, 513B--------- Ninigret	8A	Slight	Slight	Slight	Slight	Moderate	Eastern white pine-- Red pine------------ Red maple----------- Northern red oak---- Sugar maple---------	66 71 60 70 55	8 9 3 4 2	Eastern white pine, red pine, white spruce.
526A, 526B, 526C--- Caesar	5S	Slight	Slight	Moderate	Slight	Slight	Eastern white pine-- Red pine------------	45 60	5 7	Eastern white pine, red pine.
526E--------------- Caesar	5S	Moderate	Moderate	Moderate	Slight	Slight	Eastern white pine-- Red pine------------	45 60	5 7	Eastern white pine, red pine.
531A, 531B--------- Scio	10A	Slight	Slight	Slight	Slight	Severe	Eastern white pine-- White ash----------- Sugar maple--------- Black cherry-------- Eastern hemlock----- Northern red oak----	80 85 70 80 70 75	10 4 3 4 --- 4	Eastern white pine, red pine, white spruce.

See footnotes at end of table.

TABLE 7.--WOODLAND MANAGEMENT AND PRODUCTIVITY--Continued

Soil name and map symbol	Ordination symbol	Management concerns: Erosion hazard	Equipment limitation	Seedling mortality	Windthrow hazard	Plant competition	Potential productivity: Common trees	Site index	Productivity class*	Trees to plant
533-----------------Raynham	8W	Slight	Severe	Moderate	Severe	Severe	Eastern white pine--	65	8	Eastern white pine, white spruce.
							Red maple-----------	65	3	
							White spruce--------	55	9	
							Red spruce----------	45	7	
							Red maple-----------	60	3	
							Balsam fir----------	50	8	
558B, 559B, 559C---Skerry	10A	Slight	Slight	Slight	Moderate	Moderate	Eastern white pine--	80	10	Eastern white pine, white spruce.
							Sugar maple---------	60	3	
							White spruce--------	65	10	
							Balsam fir----------	65	9	
613B----------------Croghan	9S	Slight	Slight	Moderate	Slight	Moderate	Eastern white pine--	70	9	Eastern white pine, white spruce.
							Red pine------------	65	8	
							Sugar maple---------	55	2	
							Red maple-----------	74	3	
646B, 647B----------Pillsbury	7W	Slight	Severe	Moderate	Severe	Severe	Eastern white pine--	60	7	Eastern white pine, white spruce.
							Northern red oak----	60	3	
							Red spruce----------	47	7	
							Sugar maple---------	55	2	
							Balsam fir----------	51	7	
771C**:										
Berkshire----------	8X	Slight	Moderate	Slight	Slight	Moderate	Eastern white pine--	68	8	Eastern white pine, red pine, white spruce.
							Sugar maple---------	60	3	
							Red spruce----------	50	8	
							White ash-----------	62	3	
							Yellow birch--------	55	2	
							Paper birch---------	60	4	
							Balsam fir----------	55	9	
							White spruce--------	55	9	
							Red pine------------	65	8	
Monadnock----------	8X	Slight	Moderate	Slight	Slight	Moderate	Eastern white pine--	63	8	Red pine, white spruce, eastern white pine.
							Northern red oak----	53	3	
							Red pine------------	60	7	
							White spruce--------	55	9	

See footnotes at end of table.

TABLE 7.--WOODLAND MANAGEMENT AND PRODUCTIVITY--Continued

Soil name and map symbol	Ordination symbol	Management concerns					Potential productivity			Trees to plant
		Erosion hazard	Equipment limitation	Seedling mortality	Windthrow hazard	Plant competition	Common trees	Site index	Productivity class*	
771D**:										
Berkshire	8X	Slight	Moderate	Slight	Slight	Moderate	Eastern white pine	68	8	Eastern white pine, red pine, white spruce, balsam fir.
							Sugar maple	60	3	
							Red spruce	50	8	
							White ash	62	3	
							Yellow birch	55	2	
							Paper birch	60	4	
							Balsam fir	55	9	
							White spruce	55	9	
							Red pine	65	8	
Monadnock	8X	Moderate	Severe	Slight	Slight	Moderate	Eastern white pine	63	8	Red pine, white spruce, eastern white pine.
							Northern red oak	53	3	
							Red pine	60	7	
							White spruce	55	9	

* Productivity class is the yield in cubic meters per hectare per year calculated at the age of culmination of mean annual increment for fully stocked natural stands.

** See description of the map unit for composition and behavior characteristics of the map unit.

TABLE 8.--RECREATIONAL DEVELOPMENT

(Some terms that describe restrictive soil features are defined in the Glossary. See text for definitions of "slight," "moderate," and "severe." Absence of an entry indicates that the soil was not rated)

Soil name and map symbol	Camp areas	Picnic areas	Playgrounds	Paths and trails	Golf fairways
2 Suncook	Severe: flooding.	Moderate: too sandy.	Moderate: flooding, too sandy.	Moderate: too sandy.	Moderate: droughty, flooding.
4 Pootatuck	Severe: flooding.	Moderate: wetness.	Moderate: wetness, flooding.	Moderate: wetness.	Moderate: wetness, flooding.
5 Rippowam	Severe: flooding, wetness.	Severe: wetness.	Severe: wetness, flooding.	Severe: wetness.	Severe: wetness, flooding.
6 Saco	Severe: flooding.	Severe: wetness.	Severe: wetness, flooding.	Severe: wetness.	Severe: wetness, flooding.
9 Winooski	Severe: flooding.	Moderate: wetness.	Moderate: flooding, wetness.	Moderate: wetness.	Moderate: wetness, flooding.
10B Merrimac	Slight	Slight	Moderate: slope, small stones.	Slight	Slight.
10C Merrimac	Moderate: slope.	Moderate: slope.	Severe: slope.	Slight	Moderate: slope.
14B Sheepscot	Moderate: small stones, wetness.	Moderate: wetness, small stones.	Severe: small stones.	Moderate: wetness.	Severe: droughty.
15 Searsport	Severe: ponding, excess humus.	Severe: ponding, excess humus.	Severe: excess humus, ponding.	Severe: ponding, excess humus.	Severe: ponding, excess humus.
22A Colton	Slight	Slight	Moderate: small stones.	Slight	Severe: droughty.
22B Colton	Slight	Slight	Moderate: slope, small stones.	Slight	Severe: droughty.
22C Colton	Moderate: slope.	Moderate: slope.	Severe: slope.	Slight	Severe: droughty.
22E Colton	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: droughty, slope.
24A Agawam	Slight	Slight	Slight	Slight	Slight.
24B Agawam	Slight	Slight	Moderate: slope.	Slight	Slight.
24C Agawam	Moderate: slope.	Moderate: slope.	Severe: slope.	Slight	Moderate: slope.

TABLE 8.--RECREATIONAL DEVELOPMENT--Continued

Soil name and map symbol	Camp areas	Picnic areas	Playgrounds	Paths and trails	Golf fairways
26A------------------- Windsor	Moderate: too sandy.	Moderate: too sandy.	Moderate: too sandy.	Moderate: too sandy.	Moderate: droughty.
26B------------------- Windsor	Moderate: too sandy.	Moderate: too sandy.	Moderate: slope, too sandy.	Moderate: too sandy.	Moderate: droughty.
26C------------------- Windsor	Moderate: slope, too sandy.	Moderate: slope, too sandy.	Severe: slope.	Moderate: too sandy.	Moderate: droughty, slope.
26E------------------- Windsor	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.
30A------------------- Unadilla	Slight----------	Slight----------	Slight----------	Slight----------	Slight.
30B------------------- Unadilla	Slight----------	Slight----------	Moderate: slope.	Moderate: erodes easily.	Slight.
30C------------------- Unadilla	Moderate: slope.	Moderate: slope.	Severe: slope.	Severe: erodes easily.	Moderate: slope.
36A------------------- Adams	Slight----------	Slight----------	Slight----------	Slight----------	Severe: droughty.
36B------------------- Adams	Slight----------	Slight----------	Moderate: slope.	Slight----------	Severe: droughty.
36C------------------- Adams	Moderate: slope.	Moderate: slope.	Severe: slope.	Slight----------	Severe: droughty.
36E------------------- Adams	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope, droughty.
56B------------------- Becket	Moderate: percs slowly.	Moderate: percs slowly.	Moderate: slope.	Slight----------	Moderate: small stones.
56C------------------- Becket	Moderate: slope, percs slowly.	Moderate: slope, percs slowly.	Severe: slope.	Slight----------	Moderate: small stones, slope.
57B------------------- Becket	Moderate: percs slowly.	Moderate: percs slowly.	Moderate: large stones, slope.	Slight----------	Moderate: large stones.
57C------------------- Becket	Moderate: slope, percs slowly.	Moderate: slope, percs slowly.	Severe: slope.	Slight----------	Moderate: large stones, slope.
57D------------------- Becket	Severe: slope.	Severe: slope.	Severe: slope.	Moderate: slope.	Severe: slope.
60B*:					
Tunbridge------------	Moderate: small stones.	Moderate: small stones.	Severe: large stones, small stones.	Slight----------	Moderate: small stones, large stones, droughty.

See footnote at end of table.

TABLE 8.--RECREATIONAL DEVELOPMENT--Continued

Soil name and map symbol	Camp areas	Picnic areas	Playgrounds	Paths and trails	Golf fairways
60B*:					
Berkshire	Moderate: large stones.	Moderate: large stones.	Severe: large stones.	Slight	Moderate: large stones.
60C*:					
Tunbridge	Moderate: slope, small stones.	Moderate: slope, small stones.	Severe: large stones, slope, small stones.	Slight	Moderate: small stones, large stones, droughty.
Berkshire	Moderate: slope, large stones.	Moderate: slope, large stones.	Severe: slope, large stones.	Slight	Moderate: slope, large stones.
60D*:					
Tunbridge	Severe: slope.	Severe: slope.	Severe: large stones, slope, small stones.	Moderate: slope.	Moderate: small stones, large stones, droughty.
Berkshire	Severe: slope.	Severe: slope.	Severe: slope, large stones.	Moderate: slope.	Severe: slope.
61B*:					
Tunbridge	Moderate: small stones.	Moderate: small stones.	Severe: large stones, small stones.	Slight	Moderate: small stones, large stones, droughty.
Lyman	Severe: depth to rock.	Severe: depth to rock.	Severe: large stones, depth to rock.	Slight	Severe: depth to rock.
Rock outcrop.					
61C*:					
Tunbridge	Moderate: slope, small stones.	Moderate: slope, small stones.	Severe: large stones, slope, small stones.	Slight	Moderate: small stones, large stones, droughty.
Lyman	Severe: depth to rock.	Severe: depth to rock.	Severe: large stones, slope, depth to rock.	Slight	Severe: depth to rock.
Rock outcrop.					
61D*:					
Tunbridge	Severe: slope.	Severe: slope.	Severe: large stones, slope, small stones.	Moderate: slope.	Moderate: small stones, large stones, droughty.
Lyman	Severe: slope, depth to rock.	Severe: slope, depth to rock.	Severe: large stones, slope, depth to rock.	Moderate: slope.	Severe: slope, depth to rock.
Rock outcrop.					

See footnote at end of table.

TABLE 8.--RECREATIONAL DEVELOPMENT--Continued

Soil name and map symbol	Camp areas	Picnic areas	Playgrounds	Paths and trails	Golf fairways
72B------------------ Berkshire	Slight---------	Slight---------	Moderate: slope, small stones.	Slight---------	Slight.
72C------------------ Berkshire	Moderate: slope.	Moderate: slope.	Severe: slope.	Slight---------	Moderate: slope.
72D------------------ Berkshire	Severe: slope.	Severe: slope.	Severe: slope.	Moderate: slope.	Severe: slope.
73B------------------ Berkshire	Moderate: large stones.	Moderate: large stones.	Severe: large stones.	Slight---------	Moderate: large stones.
73C------------------ Berkshire	Moderate: slope, large stones.	Moderate: slope, large stones.	Severe: slope, large stones.	Slight---------	Moderate: slope, large stones.
73D------------------ Berkshire	Severe: slope.	Severe: slope.	Severe: slope, large stones.	Moderate: slope.	Severe: slope.
76B------------------ Marlow	Moderate: percs slowly.	Moderate: percs slowly.	Moderate: slope, small stones.	Slight---------	Slight.
76C------------------ Marlow	Moderate: slope, percs slowly.	Moderate: slope, percs slowly.	Severe: slope.	Slight---------	Moderate: slope.
76D------------------ Marlow	Severe: slope.	Severe: slope.	Severe: slope.	Moderate: slope.	Severe: slope.
77B------------------ Marlow	Moderate: percs slowly.	Moderate: percs slowly.	Moderate: large stones, slope.	Slight---------	Moderate: large stones.
77C------------------ Marlow	Moderate: slope, percs slowly.	Moderate: slope, percs slowly.	Severe: slope.	Slight---------	Moderate: large stones, slope.
77D------------------ Marlow	Severe: slope.	Severe: slope.	Severe: slope.	Moderate: slope.	Severe: slope.
77E------------------ Marlow	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.
78B------------------ Peru	Moderate: wetness, percs slowly.	Moderate: wetness, percs slowly.	Moderate: slope, small stones, wetness.	Moderate: wetness.	Moderate: wetness.
78C------------------ Peru	Moderate: slope, wetness, percs slowly.	Moderate: slope, wetness, percs slowly.	Severe: slope.	Moderate: wetness.	Moderate: wetness, slope.
79B------------------ Peru	Moderate: wetness, percs slowly.	Moderate: wetness, percs slowly.	Moderate: large stones, slope, wetness.	Moderate: wetness.	Moderate: large stones, wetness.

See footnote at end of table.

TABLE 8.--RECREATIONAL DEVELOPMENT--Continued

Soil name and map symbol	Camp areas	Picnic areas	Playgrounds	Paths and trails	Golf fairways
79C------------------- Peru	Moderate: slope, wetness, percs slowly.	Moderate: slope, wetness, percs slowly.	Severe: slope.	Moderate: wetness.	Severe: large stones, wetness, slope.
79D------------------- Peru	Severe: slope.	Severe: slope.	Severe: slope.	Moderate: wetness, slope.	Severe: slope.
107*: Rippowam--------------	Severe: flooding, wetness.	Severe: wetness.	Severe: wetness, flooding.	Severe: wetness.	Severe: wetness, flooding.
Saco------------------	Severe: flooding.	Severe: wetness.	Severe: wetness, flooding.	Severe: wetness.	Severe: wetness, flooding.
108------------------- Hadley	Severe: flooding.	Slight----------	Moderate: flooding.	Slight----------	Moderate: flooding.
109------------------- Limerick	Severe: flooding, wetness.	Severe: wetness.	Severe: wetness, flooding.	Severe: wetness.	Severe: flooding, wetness.
142B------------------ Monadnock	Slight----------	Slight----------	Moderate: slope, small stones.	Slight----------	Slight.
142C------------------ Monadnock	Moderate: slope.	Moderate: slope.	Severe: slope.	Slight----------	Moderate: slope.
143B------------------ Monadnock	Moderate: large stones.	Moderate: large stones.	Severe: small stones.	Slight----------	Moderate: large stones.
143C------------------ Monadnock	Moderate: slope, large stones.	Moderate: slope, large stones.	Severe: slope, small stones.	Slight----------	Moderate: large stones, slope.
143D------------------ Monadnock	Severe: slope.	Severe: slope.	Severe: slope, small stones.	Moderate: slope.	Severe: slope.
161E*: Lyman-----------------	Severe: slope, depth to rock.	Severe: slope, depth to rock.	Severe: large stones, slope, depth to rock.	Severe: slope.	Severe: slope, depth to rock.
Tunbridge------------	Severe: slope.	Severe: slope.	Severe: large stones, slope, small stones.	Severe: slope.	Moderate: small stones, large stones, droughty.
Rock outcrop.					
168B------------------ Sunapee	Moderate: wetness.	Moderate: wetness.	Moderate: slope, small stones.	Moderate: wetness.	Moderate: wetness.

See footnote at end of table.

TABLE 8.--RECREATIONAL DEVELOPMENT--Continued

Soil name and map symbol	Camp areas	Picnic areas	Playgrounds	Paths and trails	Golf fairways
169B------------------ Sunapee	Moderate: large stones, wetness.	Moderate: wetness, large stones.	Severe: small stones.	Moderate: wetness.	Moderate: small stones, large stones, wetness.
169C------------------ Sunapee	Moderate: slope, large stones.	Moderate: slope, wetness.	Severe: slope, small stones.	Moderate: wetness.	Moderate: small stones, large stones, wetness.
197. Borohemists					
214------------------- Naumburg	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.
218*:					
Raynham--------------	Severe: flooding, wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness, erodes easily.	Severe: wetness.
Wareham--------------	Severe: flooding, wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.
230E------------------ Poocham	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope, erodes easily.	Severe: slope.
295------------------- Greenwood	Severe: ponding, excess humus.	Severe: ponding, excess humus.	Severe: excess humus, ponding.	Severe: ponding, excess humus.	Severe: ponding, excess humus.
298*. Pits					
299. Udorthents					
330B------------------ Bernardston	Moderate: slope, percs slowly.	Moderate: percs slowly.	Moderate: slope, small stones.	Slight----------	Slight.
330C------------------ Bernardston	Moderate: slope, percs slowly.	Moderate: slope, percs slowly.	Severe: slope.	Slight----------	Moderate: slope.
330D------------------ Bernardston	Severe: slope.	Severe: slope.	Severe: slope.	Moderate: slope.	Severe: slope.
331C------------------ Bernardston	Moderate: large stones, percs slowly.	Moderate: large stones, percs slowly.	Severe: large stones, slope, small stones.	Slight----------	Moderate: large stones, slope.
331D------------------ Bernardston	Severe: slope.	Severe: slope.	Severe: large stones, slope, small stones.	Moderate: slope.	Severe: slope.

See footnote at end of table.

TABLE 8.--RECREATIONAL DEVELOPMENT--Continued

Soil name and map symbol	Camp areas	Picnic areas	Playgrounds	Paths and trails	Golf fairways
331E----------------- Bernardston	Severe: slope.	Severe: slope.	Severe: large stones, slope, small stones.	Severe: slope.	Severe: slope.
334B----------------- Pittstown	Moderate: wetness.	Moderate: wetness.	Moderate: slope, wetness, small stones.	Moderate: wetness.	Slight.
334C----------------- Pittstown	Moderate: slope, wetness.	Moderate: slope, wetness.	Severe: slope.	Moderate: wetness.	Moderate: slope.
336B----------------- Pittstown	Moderate: large stones, wetness.	Moderate: large stones, wetness.	Severe: large stones, small stones.	Moderate: wetness.	Moderate: large stones, small stones.
336C----------------- Pittstown	Moderate: slope, large stones.	Moderate: slope, large stones.	Severe: slope, large stones, small stones.	Moderate: wetness.	Moderate: slope, large stones.
340B----------------- Stissing	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.
341B----------------- Stissing	Severe: wetness.	Severe: wetness.	Severe: large stones, small stones.	Severe: wetness.	Severe: wetness.
347B*:					
Lyme-----------------	Severe: wetness.	Severe: wetness.	Severe: small stones, wetness.	Severe: wetness.	Severe: wetness.
Moosilauke-----------	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.
360B*:					
Cardigan-------------	Slight----------	Slight----------	Moderate: slope, depth to rock.	Severe: erodes easily.	Moderate: thin layer.
Kearsarge------------	Severe: depth to rock.	Severe: depth to rock.	Severe: depth to rock.	Severe: erodes easily.	Severe: thin layer.
360C*:					
Cardigan-------------	Moderate: slope.	Moderate: slope.	Severe: slope.	Severe: erodes easily.	Moderate: slope, thin layer.
Kearsarge------------	Severe: depth to rock.	Severe: depth to rock.	Severe: slope, depth to rock.	Severe: erodes easily.	Severe: thin layer.
360D*:					
Cardigan-------------	Severe: slope.	Severe: slope.	Severe: slope.	Severe: erodes easily.	Severe: slope.

See footnote at end of table.

TABLE 8.--RECREATIONAL DEVELOPMENT--Continued

Soil name and map symbol	Camp areas	Picnic areas	Playgrounds	Paths and trails	Golf fairways
360D*:					
Kearsarge	Severe: slope, depth to rock.	Severe: slope, depth to rock.	Severe: slope, depth to rock.	Severe: erodes easily.	Severe: slope, thin layer.
361C*:					
Cardigan	Moderate: slope, large stones.	Moderate: slope, large stones.	Severe: slope, small stones.	Slight	Moderate: small stones, large stones, slope.
Kearsarge	Severe: depth to rock.	Severe: depth to rock.	Severe: slope, small stones.	Slight	Severe: thin layer.
Rock outcrop.					
361D*:					
Cardigan	Severe: slope.	Severe: slope.	Severe: slope, small stones.	Moderate: slope.	Severe: slope.
Kearsarge	Severe: slope, depth to rock.	Severe: slope, depth to rock.	Severe: slope, small stones.	Moderate: slope.	Severe: slope, thin layer.
Rock outcrop.					
362E*:					
Kearsarge	Severe: slope, depth to rock.	Severe: slope, depth to rock.	Severe: slope, small stones.	Severe: slope.	Severe: slope, thin layer.
Cardigan	Severe: slope.	Severe: slope.	Severe: slope, small stones.	Severe: slope.	Severe: slope.
Rock outcrop.					
365C*:					
Berkshire	Severe: large stones.	Severe: large stones.	Severe: slope, large stones.	Moderate: large stones.	Severe: large stones.
Monadnock	Severe: large stones.	Severe: large stones.	Severe: large stones, slope.	Moderate: large stones.	Severe: large stones.
365D*:					
Berkshire	Severe: slope, large stones.	Severe: slope, large stones.	Severe: slope, large stones.	Moderate: slope, large stones.	Severe: slope, large stones.
Monadnock	Severe: slope, large stones.	Severe: slope, large stones.	Severe: large stones, slope.	Moderate: large stones, slope.	Severe: large stones, slope.
365E*:					
Berkshire	Severe: slope, large stones.	Severe: slope, large stones.	Severe: slope, large stones.	Severe: slope.	Severe: slope, large stones.

See footnote at end of table.

TABLE 8.--RECREATIONAL DEVELOPMENT--Continued

Soil name and map symbol	Camp areas	Picnic areas	Playgrounds	Paths and trails	Golf fairways
365E*:					
Monadnock	Severe: slope, large stones.	Severe: slope, large stones.	Severe: large stones, slope.	Severe: slope.	Severe: large stones, slope.
366B Dutchess	Slight	Slight	Moderate: slope.	Severe: erodes easily.	Moderate: large stones.
366C Dutchess	Moderate: slope.	Moderate: slope.	Severe: slope.	Severe: erodes easily.	Moderate: large stones, slope.
366D Dutchess	Severe: slope.	Severe: slope.	Severe: slope.	Severe: erodes easily.	Severe: slope.
367C Dutchess	Moderate: slope, large stones.	Moderate: slope, large stones.	Severe: large stones, slope, small stones.	Slight	Moderate: large stones, slope.
367D Dutchess	Severe: slope.	Severe: slope.	Severe: large stones, slope, small stones.	Moderate: slope.	Severe: slope.
367E Dutchess	Severe: slope.	Severe: slope.	Severe: large stones, slope, small stones.	Severe: slope.	Severe: slope.
395 Chocorua	Severe: ponding, excess humus.	Severe: ponding, excess humus.	Severe: excess humus, ponding.	Severe: ponding, excess humus.	Severe: ponding, excess humus.
399*. Rock outcrop					
401 Occum	Severe: flooding.	Slight	Moderate: flooding.	Slight	Moderate: flooding.
410A Haven	Slight	Slight	Moderate: small stones.	Slight	Slight.
410B Haven	Slight	Slight	Moderate: slope, small stones.	Moderate: erodes easily.	Slight.
410C Haven	Moderate: slope.	Moderate: slope.	Severe: slope.	Severe: erodes easily.	Moderate: slope.
414 Moosilauke	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.
495 Ossipee	Severe: ponding, excess humus.	Severe: ponding, excess humus.	Severe: excess humus, ponding.	Severe: ponding, excess humus.	Severe: ponding, excess humus.
510B Hoosic	Moderate: small stones.	Moderate: small stones.	Severe: small stones.	Slight	Moderate: droughty, small stones.

See footnote at end of table.

TABLE 8.--RECREATIONAL DEVELOPMENT--Continued

Soil name and map symbol	Camp areas	Picnic areas	Playgrounds	Paths and trails	Golf fairways
510C----------------- Hoosic	Moderate: slope, small stones.	Moderate: slope, small stones.	Severe: slope, small stones.	Slight----------	Moderate: droughty, small stones.
510E----------------- Hoosic	Severe: slope.	Severe: slope.	Severe: slope, small stones.	Severe: slope.	Severe: slope.
513A----------------- Ninigret	Moderate: wetness.	Moderate: wetness.	Moderate: wetness.	Moderate: wetness.	Moderate: wetness.
513B----------------- Ninigret	Moderate: wetness.	Moderate: wetness.	Moderate: slope, wetness.	Moderate: wetness.	Moderate: wetness.
526A----------------- Caesar	Moderate: too sandy.	Moderate: too sandy.	Moderate: too sandy.	Moderate: too sandy.	Severe: droughty.
526B----------------- Caesar	Moderate: too sandy.	Moderate: too sandy.	Moderate: slope, too sandy.	Moderate: too sandy.	Severe: droughty.
526C----------------- Caesar	Moderate: slope, too sandy.	Moderate: slope, too sandy.	Severe: slope.	Moderate: too sandy.	Severe: droughty.
526E----------------- Caesar	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: droughty, slope.
531A----------------- Scio	Moderate: wetness.	Moderate: wetness.	Moderate: wetness.	Moderate: wetness.	Moderate: wetness.
531B----------------- Scio	Moderate: wetness.	Moderate: wetness.	Moderate: slope, wetness.	Moderate: erodes easily, wetness.	Moderate: wetness.
533------------------ Raynham	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness, erodes easily.	Severe: wetness.
558B----------------- Skerry	Moderate: wetness, percs slowly.	Moderate: wetness, percs slowly.	Moderate: slope, small stones, percs slowly.	Moderate: wetness.	Moderate: small stones, wetness.
559B----------------- Skerry	Moderate: large stones, wetness.	Moderate: wetness, large stones.	Moderate: large stones, slope.	Moderate: wetness.	Moderate: large stones, wetness.
559C----------------- Skerry	Moderate: slope, large stones, wetness.	Moderate: slope, wetness, large stones.	Severe: slope.	Moderate: wetness.	Moderate: large stones, wetness, slope.
613B----------------- Croghan	Moderate: wetness.	Moderate: wetness.	Moderate: slope, wetness.	Moderate: wetness.	Severe: droughty.
646B----------------- Pillsbury	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.

See footnote at end of table.

TABLE 8.--RECREATIONAL DEVELOPMENT--Continued

Soil name and map symbol	Camp areas	Picnic areas	Playgrounds	Paths and trails	Golf fairways
647B------------------ Pillsbury	Severe: wetness.	Severe: wetness.	Severe: small stones, wetness.	Severe: wetness.	Severe: wetness.
771C*:					
Berkshire------------	Severe: large stones.	Severe: large stones.	Severe: slope, large stones.	Moderate: large stones.	Severe: large stones.
Monadnock------------	Severe: large stones.	Severe: large stones.	Severe: large stones, slope, small stones.	Moderate: large stones.	Severe: large stones.
771D*:					
Berkshire------------	Severe: slope, large stones.	Severe: slope, large stones.	Severe: slope, large stones.	Moderate: slope, large stones.	Severe: slope, large stones.
Monadnock------------	Severe: slope, large stones.	Severe: slope, large stones.	Severe: large stones, slope, small stones.	Moderate: large stones, slope.	Severe: large stones, slope.

* See description of the map unit for composition and behavior characteristics of the map unit.

TABLE 9.--WILDLIFE HABITAT

(See text for definitions of "good," "fair," "poor," and "very poor." Absence of an entry indicates that the soil was not rated)

Soil name and map symbol	Potential for habitat elements							Potential as habitat for--		
	Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Hardwood trees	Coniferous plants	Wetland plants	Shallow water areas	Openland wildlife	Woodland wildlife	Wetland wildlife
2----------------- Suncook	Poor	Poor	Fair	Poor	Poor	Very poor.	Very poor.	Poor	Poor	Very poor.
4----------------- Pootatuck	Fair	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor.
5----------------- Rippowam	Poor	Fair	Fair	Fair	Fair	Good	Fair	Fair	Fair	Fair.
6----------------- Saco	Very poor.	Poor	Poor	Poor	Poor	Good	Fair	Poor	Poor	Good.
9----------------- Winooski	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor.
10B, 10C----------- Merrimac	Fair	Fair	Fair	Fair	Fair	Very poor.	Very poor.	Fair	Fair	Very poor.
14B---------------- Sheepscot	Fair	Good	Good	Fair	Fair	Poor	Very poor.	Good	Fair	Very poor.
15----------------- Searsport	Very poor.	Poor	Poor	Poor	Poor	Good	Fair	Poor	Poor	Good.
22A, 22B, 22C------ Colton	Poor	Fair	Fair	Poor	Poor	Very poor.	Very poor.	Fair	Poor	Very poor.
22E---------------- Colton	Very poor.	Fair	Fair	Poor	Poor	Very poor.	Very poor.	Poor	Poor	Very poor.
24A---------------- Agawam	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
24B---------------- Agawam	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
24C---------------- Agawam	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
26A, 26B, 26C------ Windsor	Poor	Poor	Fair	Poor	Poor	Very poor.	Very poor.	Poor	Poor	Very poor.
26E---------------- Windsor	Very poor.	Poor	Fair	Poor	Poor	Very poor.	Very poor.	Poor	Poor	Very poor.
30A, 30B----------- Unadilla	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
30C---------------- Unadilla	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
36A, 36B, 36C------ Adams	Poor	Fair	Fair	Poor	Poor	Very poor.	Very poor.	Poor	Poor	Very poor.
36E---------------- Adams	Very poor.	Fair	Fair	Poor	Poor	Very poor.	Very poor.	Poor	Poor	Very poor.

TABLE 9.--WILDLIFE HABITAT--Continued

Soil name and map symbol	Potential for habitat elements							Potential as habitat for--		
	Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Hardwood trees	Coniferous plants	Wetland plants	Shallow water areas	Openland wildlife	Woodland wildlife	Wetland wildlife
56B: Becket	Fair	Good	Good	Fair	Fair	Poor	Very poor.	Good	Fair	Very poor.
56C: Becket	Fair	Good	Good	Fair	Fair	Very poor.	Very poor.	Good	Fair	Very poor.
57B, 57C, 57D: Becket	Very poor.	Poor	Good	Fair	Fair	Very poor.	Very poor.	Poor	Fair	Very poor.
60B*:										
Tunbridge	Very poor.	Poor	Good	Good	Good	Poor	Very poor.	Poor	Good	Very poor.
Berkshire	Very poor.	Poor	Good	Good	Good	Poor	Very poor.	Poor	Good	Very poor.
60C*, 60D*:										
Tunbridge	Very poor.	Poor	Good	Good	Good	Very poor.	Very poor.	Poor	Good	Very poor.
Berkshire	Very poor.	Poor	Good	Good	Good	Very poor.	Very poor.	Poor	Good	Very poor.
61B*:										
Tunbridge	Very poor.	Poor	Good	Good	Good	Poor	Very poor.	Poor	Good	Very poor.
Lyman	Very poor.	Poor	Fair	Poor	Poor	Very poor.	Very poor.	Poor	Poor	Very poor.
Rock outcrop.										
61C*, 61D*:										
Tunbridge	Very poor.	Poor	Good	Good	Good	Very poor.	Very poor.	Poor	Good	Very poor.
Lyman	Very poor.	Poor	Fair	Poor	Poor	Very poor.	Very poor.	Poor	Poor	Very poor.
Rock outcrop.										
72B: Berkshire	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
72C: Berkshire	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
72D: Berkshire	Poor	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
73B: Berkshire	Very poor.	Poor	Good	Good	Good	Poor	Very poor.	Poor	Good	Very poor.
73C, 73D: Berkshire	Very poor.	Poor	Good	Good	Good	Very poor.	Very poor.	Poor	Good	Very poor.
76B: Marlow	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.

See footnote at end of table.

TABLE 9.--WILDLIFE HABITAT--Continued

Soil name and map symbol	Potential for habitat elements							Potential as habitat for--		
	Grain and seed crops	Grasses and legumes	Wild herba- ceous plants	Hardwood trees	Conif- erous plants	Wetland plants	Shallow water areas	Openland wildlife	Woodland wildlife	Wetland wildlife
76C Marlow	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
76D Marlow	Poor	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
77B Marlow	Poor	Fair	Good	Good	Good	Poor	Very poor.	Fair	Good	Very poor.
77C, 77D Marlow	Poor	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
77E Marlow	Very poor.	Poor	Good	Good	Good	Very poor.	Very poor.	Poor	Good	Very poor.
78B Peru	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
78C Peru	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
79B Peru	Poor	Fair	Good	Good	Good	Poor	Very poor.	Fair	Good	Very poor.
79C, 79D Peru	Poor	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
107*:										
Rippowam	Poor	Fair	Fair	Fair	Fair	Good	Fair	Fair	Fair	Fair.
Saco	Very poor.	Poor	Poor	Poor	Poor	Good	Fair	Poor	Poor	Good.
108 Hadley	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
109 Limerick	Poor	Fair	Fair	Fair	Fair	Good	Good	Fair	Fair	Good.
142B Monadnock	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
142C Monadnock	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
143B Monadnock	Very poor.	Poor	Good	Good	Good	Poor	Very poor.	Poor	Good	Very poor.
143C, 143D Monadnock	Very poor.	Poor	Good	Good	Good	Very poor.	Very poor.	Poor	Good	Very poor.
161E*:										
Lyman	Very poor.	Poor	Fair	Poor	Poor	Very poor.	Very poor.	Poor	Poor	Very poor.
Tunbridge	Very poor.	Very poor.	Good	Good	Good	Very poor.	Very poor.	Poor	Fair	Very poor.
Rock outcrop.										

See footnote at end of table.

TABLE 9.--WILDLIFE HABITAT--Continued

Soil name and map symbol	Potential for habitat elements: Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Hardwood trees	Coniferous plants	Wetland plants	Shallow water areas	Potential as habitat for--: Openland wildlife	Woodland wildlife	Wetland wildlife
168B---------------- Sunapee	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
169B---------------- Sunapee	Very poor.	Poor	Good	Good	Good	Poor	Very poor.	Poor	Good	Very poor.
169C---------------- Sunapee	Very poor.	Poor	Good	Good	Good	Very poor.	Very poor.	Poor	Good	Very poor.
197. Borohemists										
214----------------- Naumburg	Poor	Fair	Fair	Fair	Fair	Good	Good	Fair	Fair	Good.
218*:										
Raynham------------	Fair	Fair	Fair	Fair	Fair	Good	Fair	Fair	Fair	Fair.
Wareham------------	Poor	Fair	Fair	Poor	Poor	Fair	Fair	Fair	Poor	Fair.
230E---------------- Poocham	Very poor.	Poor	Good	Good	Good	Very poor.	Very poor.	Poor	Good	Very poor.
295----------------- Greenwood	Very poor.	Poor	Poor	Poor	Poor	Good	Good	Poor	Poor	Good.
298*. Pits										
299. Udorthents										
330B---------------- Bernardston	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
330C---------------- Bernardston	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
330D---------------- Bernardston	Poor	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
331C, 331D---------- Bernardston	Very poor.	Poor	Good	Good	Good	Very poor.	Very poor.	Poor	Good	Very poor.
331E---------------- Bernardston	Very poor.	Very poor.	Good	Good	Good	Very poor.	Very poor.	Poor	Fair	Very poor.
334B---------------- Pittstown	Fair	Good	Good	Fair	Fair	Poor	Very poor.	Good	Fair	Very poor.
334C---------------- Pittstown	Fair	Good	Good	Fair	Fair	Very poor.	Very poor.	Good	Fair	Very poor.
336B---------------- Pittstown	Very poor.	Poor	Good	Fair	Fair	Poor	Very poor.	Poor	Fair	Very poor.
336C---------------- Pittstown	Very poor.	Poor	Good	Fair	Fair	Very poor.	Very poor.	Poor	Fair	Very poor.

See footnote at end of table.

TABLE 9.--WILDLIFE HABITAT--Continued

Soil name and map symbol	Potential for habitat elements: Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Hardwood trees	Coniferous plants	Wetland plants	Shallow water areas	Potential as habitat for--: Openland wildlife	Woodland wildlife	Wetland wildlife
340B: Stissing	Poor	Fair	Fair	Fair	Fair	Poor	Very poor.	Fair	Fair	Fair.
341B: Stissing	Very poor.	Poor	Fair	Fair	Fair	Poor	Very poor.	Poor	Fair	Fair.
347B*:										
Lyme	Very poor.	Poor	Fair	Fair	Fair	Poor	Very poor.	Poor	Fair	Fair.
Moosilauke	Very poor.	Poor	Fair	Fair	Fair	Fair	Very poor.	Poor	Fair	Fair.
360B*, 360C*:										
Cardigan	Fair	Fair	Good	Good	Good	Poor	Very poor.	Fair	Fair	Very poor.
Kearsarge	Poor	Poor	Fair	Fair	Fair	Very poor.	Very poor.	Poor	Fair	Very poor.
360D*:										
Cardigan	Poor	Poor	Good	Good	Good	Very poor.	Very poor.	Fair	Fair	Very poor.
Kearsarge	Poor	Poor	Fair	Fair	Fair	Very poor.	Very poor.	Poor	Fair	Very poor.
361C*:										
Cardigan	Poor	Poor	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
Kearsarge	Very poor.	Poor	Fair	Fair	Fair	Very poor.	Very poor.	Poor	Fair	Very poor.
Rock outcrop.										
361D*:										
Cardigan	Very poor.	Very poor.	Good	Good	Good	Very poor.	Very poor.	Poor	Fair	Very poor.
Kearsarge	Very poor.	Poor	Fair	Fair	Fair	Very poor.	Very poor.	Poor	Fair	Very poor.
Rock outcrop.										
362E*:										
Kearsarge	Very poor.	Poor	Fair	Fair	Fair	Very poor.	Very poor.	Poor	Fair	Very poor.
Cardigan	Very poor.	Very poor.	Good	Good	Good	Very poor.	Very poor.	Poor	Fair	Very poor.
Rock outcrop.										
365C*, 365D*, 365E*:										
Berkshire	Very poor.	Very poor.	Good	Good	Good	Very poor.	Very poor.	Poor	Fair	Very poor.

See footnote at end of table.

TABLE 9.--WILDLIFE HABITAT--Continued

Soil name and map symbol	Potential for habitat elements							Potential as habitat for--		
	Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Hardwood trees	Coniferous plants	Wetland plants	Shallow water areas	Openland wildlife	Woodland wildlife	Wetland wildlife
365C*, 365D*, 365E*:										
Monadnock	Very poor.	Very poor.	Good	Good	Good	Very poor.	Very poor.	Poor	Fair	Very poor.
366B Dutchess	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
366C Dutchess	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
366D Dutchess	Poor	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
367C, 367D, 367E Dutchess	Very poor.	Poor	Good	Good	Good	Very poor.	Very poor.	Poor	Fair	Very poor.
395 Chocorua	Very poor.	Poor	Poor	Poor	Poor	Good	Good	Poor	Poor	Good.
399*. Rock outcrop										
401 Occum	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
410A Haven	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
410B Haven	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
410C Haven	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
414 Moosilauke	Poor	Fair	Fair	Fair	Fair	Good	Good	Fair	Fair	Good.
495 Ossipee	Very poor.	Poor	Poor	Poor	Poor	Good	Good	Poor	Poor	Good.
510B, 510C Hoosic	Poor	Fair	Fair	Poor	Poor	Very poor.	Very poor.	Fair	Poor	Very poor.
510E Hoosic	Very poor.	Fair	Fair	Poor	Poor	Very poor.	Very poor.	Poor	Poor	Very poor.
513A Ninigret	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor.
513B Ninigret	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
526A, 526B, 526C Caesar	Poor	Poor	Fair	Poor	Poor	Very poor.	Very poor.	Poor	Poor	Very poor.
526E Caesar	Very poor.	Poor	Fair	Poor	Poor	Very poor.	Very poor.	Poor	Poor	Very poor.

See footnote at end of table.

TABLE 9.--WILDLIFE HABITAT--Continued

Soil name and map symbol	Potential for habitat elements							Potential as habitat for--		
	Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Hardwood trees	Coniferous plants	Wetland plants	Shallow water areas	Openland wildlife	Woodland wildlife	Wetland wildlife
531A--------------- Scio	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor.
531B--------------- Scio	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
533---------------- Raynham	Poor	Poor	Fair	Fair	Fair	Good	Fair	Poor	Fair	Fair.
558B--------------- Skerry	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
559B--------------- Skerry	Very poor.	Poor	Good	Fair	Fair	Poor	Very poor.	Poor	Fair	Very poor.
559C--------------- Skerry	Very poor.	Poor	Good	Fair	Fair	Very poor.	Very poor.	Poor	Fair	Very poor.
613B--------------- Croghan	Poor	Fair	Fair	Fair	Fair	Poor	Very poor.	Fair	Fair	Very poor.
646B--------------- Pillsbury	Poor	Poor	Fair	Fair	Fair	Poor	Very poor.	Fair	Fair	Fair.
647B--------------- Pillsbury	Very poor.	Poor	Fair	Fair	Fair	Poor	Very poor.	Poor	Fair	Fair.
771C*, 771D*:										
Berkshire---------	Very poor.	Very poor.	Good	Good	Good	Very poor.	Very poor.	Poor	Fair	Very poor.
Monadnock---------	Very poor.	Poor	Poor	Very poor.	Very poor.	Very poor.	Very poor.	Poor	Very poor.	Very poor.

* See description of the map unit for composition and behavior characteristics of the map unit.

TABLE 10.--BUILDING SITE DEVELOPMENT

(Some terms that describe restrictive soil features are defined in the Glossary. See text for definitions of "slight," "moderate," and "severe." Absence of an entry indicates that the soil was not rated. The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation)

Soil name and map symbol	Shallow excavations	Dwellings without basements	Dwellings with basements	Small commercial buildings	Local roads and streets	Lawns and landscaping
2----------------- Suncook	Severe: cutbanks cave.	Severe: flooding.	Severe: flooding.	Severe: flooding.	Severe: flooding.	Moderate: droughty, flooding.
4----------------- Pootatuck	Severe: cutbanks cave, wetness.	Severe: flooding.	Severe: flooding, wetness.	Severe: flooding.	Severe: flooding.	Moderate: wetness, flooding.
5----------------- Rippowam	Severe: cutbanks cave, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: wetness, flooding, frost action.	Severe: wetness, flooding.
6----------------- Saco	Severe: cutbanks cave, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: wetness, flooding, frost action.	Severe: wetness, flooding.
9----------------- Winooski	Severe: wetness.	Severe: flooding.	Severe: flooding, wetness.	Severe: flooding.	Severe: flooding, frost action.	Moderate: wetness, flooding.
10B--------------- Merrimac	Severe: cutbanks cave.	Slight---------	Slight---------	Moderate: slope.	Slight---------	Slight.
10C--------------- Merrimac	Severe: cutbanks cave.	Moderate: slope.	Moderate: slope.	Severe: slope.	Moderate: slope.	Moderate: slope.
14B--------------- Sheepscot	Severe: cutbanks cave, wetness.	Moderate: wetness.	Severe: wetness.	Moderate: wetness, slope.	Moderate: wetness.	Severe: droughty.
15---------------- Searsport	Severe: cutbanks cave, ponding.	Severe: ponding.	Severe: ponding.	Severe: ponding.	Severe: ponding.	Severe: ponding, excess humus.
22A--------------- Colton	Severe: cutbanks cave.	Slight---------	Slight---------	Slight---------	Slight---------	Severe: droughty.
22B--------------- Colton	Severe: cutbanks cave.	Slight---------	Slight---------	Moderate: slope.	Slight---------	Severe: droughty.
22C--------------- Colton	Severe: cutbanks cave.	Moderate: slope.	Moderate: slope.	Severe: slope.	Moderate: slope.	Severe: droughty.
22E--------------- Colton	Severe: cutbanks cave, slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: droughty, slope.
24A--------------- Agawam	Severe: cutbanks cave.	Slight---------	Slight---------	Slight---------	Slight---------	Slight.
24B--------------- Agawam	Severe: cutbanks cave.	Slight---------	Slight---------	Moderate: slope.	Slight---------	Slight.
24C--------------- Agawam	Severe: cutbanks cave.	Moderate: slope.	Moderate: slope.	Severe: slope.	Moderate: slope.	Moderate: slope.

TABLE 10.--BUILDING SITE DEVELOPMENT--Continued

Soil name and map symbol	Shallow excavations	Dwellings without basements	Dwellings with basements	Small commercial buildings	Local roads and streets	Lawns and landscaping
26A--------------- Windsor	Severe: cutbanks cave.	Slight---------	Slight---------	Slight---------	Slight---------	Moderate: droughty.
26B--------------- Windsor	Severe: cutbanks cave.	Slight---------	Slight---------	Moderate: slope.	Slight---------	Moderate: droughty.
26C--------------- Windsor	Severe: cutbanks cave.	Moderate: slope.	Moderate: slope.	Severe: slope.	Moderate: slope.	Moderate: droughty, slope.
26E--------------- Windsor	Severe: cutbanks cave, slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.
30A--------------- Unadilla	Severe: cutbanks cave.	Slight---------	Slight---------	Slight---------	Severe: frost action.	Slight.
30B--------------- Unadilla	Severe: cutbanks cave.	Slight---------	Slight---------	Moderate: slope.	Severe: frost action.	Slight.
30C--------------- Unadilla	Severe: cutbanks cave.	Moderate: slope.	Moderate: slope.	Severe: slope.	Severe: frost action.	Moderate: slope.
36A--------------- Adams	Severe: cutbanks cave.	Slight---------	Slight---------	Slight---------	Slight---------	Severe: droughty.
36B--------------- Adams	Severe: cutbanks cave.	Slight---------	Slight---------	Moderate: slope.	Slight---------	Severe: droughty.
36C--------------- Adams	Severe: cutbanks cave.	Moderate: slope.	Moderate: slope.	Severe: slope.	Moderate: slope.	Severe: droughty.
36E--------------- Adams	Severe: slope, cutbanks cave.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope, droughty.
56B--------------- Becket	Moderate: wetness.	Slight---------	Moderate: wetness.	Moderate: slope.	Moderate: frost action.	Moderate: small stones.
56C--------------- Becket	Moderate: wetness, slope.	Moderate: slope.	Moderate: wetness, slope.	Severe: slope.	Moderate: slope, frost action.	Moderate: small stones, slope.
57B--------------- Becket	Moderate: wetness.	Slight---------	Moderate: wetness.	Moderate: slope.	Moderate: frost action.	Moderate: large stones.
57C--------------- Becket	Moderate-------	Moderate: slope.	Moderate: wetness, slope.	Severe: slope.	Moderate: slope, frost action.	Moderate: large stones, slope.
57D--------------- Becket	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.
60B*:						
Tunbridge---------	Severe: depth to rock.	Moderate: depth to rock.	Severe: depth to rock.	Moderate: slope, depth to rock.	Moderate: depth to rock, frost action.	Moderate: small stones, large stones, droughty.

See footnote at end of table.

TABLE 10.--BUILDING SITE DEVELOPMENT--Continued

Soil name and map symbol	Shallow excavations	Dwellings without basements	Dwellings with basements	Small commercial buildings	Local roads and streets	Lawns and landscaping
60B*:						
Berkshire	Slight	Slight	Slight	Moderate: slope.	Moderate: frost action.	Moderate: large stones.
60C*:						
Tunbridge	Severe: depth to rock.	Moderate: slope, depth to rock.	Severe: depth to rock.	Severe: slope.	Moderate: depth to rock, slope, frost action.	Moderate: small stones, large stones, droughty.
Berkshire	Moderate: slope.	Moderate: slope.	Moderate: slope.	Severe: slope.	Moderate: slope, frost action.	Moderate: slope, large stones.
60D*:						
Tunbridge	Severe: depth to rock, slope.	Severe: slope.	Severe: depth to rock, slope.	Severe: slope.	Severe: slope.	Moderate: small stones, large stones, droughty.
Berkshire	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.
61B*:						
Tunbridge	Severe: depth to rock.	Moderate: depth to rock.	Severe: depth to rock.	Moderate: slope, depth to rock.	Moderate: depth to rock, frost action.	Moderate: small stones, large stones, droughty.
Lyman	Severe: depth to rock.	Severe: depth to rock.	Severe: depth to rock.	Severe: depth to rock.	Severe: depth to rock.	Severe: depth to rock.
Rock outcrop.						
61C*:						
Tunbridge	Severe: depth to rock.	Moderate: slope, depth to rock.	Severe: depth to rock.	Severe: slope.	Moderate: depth to rock, slope, frost action.	Moderate: small stones, large stones, droughty.
Lyman	Severe: depth to rock.	Severe: depth to rock.	Severe: depth to rock.	Severe: depth to rock, slope.	Severe: depth to rock.	Severe: depth to rock.
Rock outcrop.						
61D*:						
Tunbridge	Severe: depth to rock, slope.	Severe: slope.	Severe: depth to rock, slope.	Severe: slope.	Severe: slope.	Moderate: small stones, large stones, droughty.
Lyman	Severe: depth to rock, slope.	Severe: slope, depth to rock.	Severe: depth to rock, slope.	Severe: depth to rock, slope.	Severe: depth to rock, slope.	Severe: slope, depth to rock.
Rock outcrop.						

See footnote at end of table.

TABLE 10.--BUILDING SITE DEVELOPMENT--Continued

Soil name and map symbol	Shallow excavations	Dwellings without basements	Dwellings with basements	Small commercial buildings	Local roads and streets	Lawns and landscaping
72B--------------- Berkshire	Slight---------	Moderate: frost action.	Slight---------	Moderate: slope.	Moderate: frost action.	Slight.
72C--------------- Berkshire	Moderate: slope.	Moderate: slope.	Moderate: slope.	Severe: slope.	Moderate: slope, frost action.	Moderate: slope.
72D--------------- Berkshire	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.
73B--------------- Berkshire	Slight---------	Slight---------	Slight---------	Moderate: slope.	Moderate: frost action.	Moderate: large stones.
73C--------------- Berkshire	Moderate: slope.	Moderate: slope.	Moderate: slope.	Severe: slope.	Moderate: slope, frost action.	Moderate: slope, large stones.
73D--------------- Berkshire	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.
76B--------------- Marlow	Moderate: dense layer.	Slight---------	Moderate: wetness.	Moderate: slope.	Moderate: frost action.	Slight.
76C--------------- Marlow	Moderate: dense layer, slope.	Moderate: slope.	Moderate: wetness, slope.	Severe: slope.	Moderate: frost action.	Moderate: slope.
76D--------------- Marlow	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.
77B--------------- Marlow	Moderate: dense layer, wetness.	Slight---------	Moderate: wetness.	Moderate: slope.	Moderate: frost action.	Moderate: large stones.
77C--------------- Marlow	Moderate: dense layer, wetness, slope.	Moderate: slope.	Moderate: wetness, slope.	Severe: slope.	Moderate: slope, frost action.	Moderate: large stones, slope.
77D, 77E---------- Marlow	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.
78B--------------- Peru	Severe: wetness.	Moderate: wetness.	Severe: wetness.	Moderate: wetness, slope.	Severe: frost action.	Moderate: wetness.
78C--------------- Peru	Severe: wetness.	Moderate: wetness, slope.	Severe: wetness.	Severe: slope.	Severe: frost action.	Moderate: wetness, slope.
79B--------------- Peru	Severe: wetness.	Moderate: wetness.	Severe: wetness.	Moderate: wetness, slope.	Severe: frost action.	Moderate: large stones, wetness.

See footnote at end of table.

TABLE 10.--BUILDING SITE DEVELOPMENT--Continued

Soil name and map symbol	Shallow excavations	Dwellings without basements	Dwellings with basements	Small commercial buildings	Local roads and streets	Lawns and landscaping
79C-------------- Peru	Severe: wetness.	Moderate: wetness, slope.	Severe: wetness.	Severe: slope.	Severe: frost action.	Severe: large stones, wetness, slope.
79D-------------- Peru	Severe: wetness, slope.	Severe: slope.	Severe: wetness, slope.	Severe: slope.	Severe: slope, frost action.	Severe: slope.
107*:						
Rippowam---------	Severe: cutbanks cave, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: wetness, flooding, frost action.	Severe: wetness, flooding.
Saco-------------	Severe: cutbanks cave, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: wetness, flooding, frost action.	Severe: wetness, flooding.
108-------------- Hadley	Moderate: flooding.	Severe: flooding.	Severe: flooding.	Severe: flooding.	Severe: flooding, frost action.	Moderate: flooding.
109-------------- Limerick	Severe: wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness, frost action.	Severe: flooding, wetness.
142B------------- Monadnock	Severe: cutbanks cave.	Slight---------	Slight---------	Moderate: slope.	Slight---------	Slight.
142C------------- Monadnock	Severe: cutbanks cave.	Moderate: slope.	Moderate: slope.	Severe: slope.	Moderate: slope.	Moderate: slope.
143B------------- Monadnock	Severe: cutbanks cave.	Slight---------	Slight---------	Moderate: slope.	Slight---------	Moderate: large stones.
143C------------- Monadnock	Severe: cutbanks cave.	Moderate: slope.	Moderate: slope.	Severe: slope.	Moderate: slope.	Moderate: large stones, slope.
143D------------- Monadnock	Severe: cutbanks cave, slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.
161E*:						
Lyman------------	Severe: depth to rock, slope.	Severe: slope, depth to rock.	Severe: depth to rock, slope.	Severe: depth to rock, slope.	Severe: depth to rock, slope.	Severe: slope, depth to rock.
Tunbridge--------	Severe: depth to rock, slope.	Severe: slope.	Severe: depth to rock, slope.	Severe: slope.	Severe: slope.	Moderate: small stones, large stones, droughty.
Rock outcrop.						
168B------------- Sunapee	Severe: cutbanks cave, wetness.	Moderate: wetness.	Severe: wetness.	Moderate: wetness, slope.	Moderate: wetness, frost action.	Moderate: wetness.

See footnote at end of table.

TABLE 10.--BUILDING SITE DEVELOPMENT--Continued

Soil name and map symbol	Shallow excavations	Dwellings without basements	Dwellings with basements	Small commercial buildings	Local roads and streets	Lawns and landscaping
169B Sunapee	Severe: cutbanks cave, wetness.	Moderate: wetness.	Severe: wetness.	Moderate: wetness, slope.	Moderate: wetness, frost action.	Moderate: small stones, large stones, wetness.
169C Sunapee	Severe: cutbanks cave, wetness.	Moderate: wetness, slope.	Severe: wetness.	Severe: slope.	Moderate: wetness, slope, frost action.	Moderate: small stones, large stones, wetness.
197. Borohemists						
214 Naumburg	Severe: cutbanks cave, wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.
218*:						
Raynham	Severe: wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: wetness, flooding, frost action.	Severe: wetness.
Wareham	Severe: wetness, cutbanks cave.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: wetness, flooding.	Severe: wetness.
230E Poocham	Severe: slope, slippage.	Severe: slope, slippage.	Severe: slope, slippage.	Severe: slope, slippage.	Severe: slope, frost action, slippage.	Severe: slope.
295 Greenwood	Severe: excess humus, ponding.	Severe: subsides, ponding, low strength.	Severe: subsides, ponding, low strength.	Severe: subsides, ponding, low strength.	Severe: ponding, frost action, subsides.	Severe: ponding, excess humus.
298*. Pits						
299. Udorthents						
330B Bernardston	Moderate: dense layer, wetness.	Moderate: wetness.	Moderate: wetness.	Moderate: wetness, slope.	Moderate: wetness, frost action.	Slight.
330C Bernardston	Moderate: dense layer, wetness, slope.	Moderate: wetness, slope.	Moderate: wetness, slope.	Severe: slope.	Moderate: wetness, slope, frost action.	Moderate: slope.
330D Bernardston	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.
331C Bernardston	Moderate: dense layer, wetness, slope.	Moderate: wetness, slope.	Moderate: wetness, slope.	Severe: slope.	Moderate: wetness, slope, frost action.	Moderate: large stones, slope.

See footnote at end of table.

TABLE 10.--BUILDING SITE DEVELOPMENT--Continued

Soil name and map symbol	Shallow excavations	Dwellings without basements	Dwellings with basements	Small commercial buildings	Local roads and streets	Lawns and landscaping
331D, 331E-------- Bernardston	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.
334B-------------- Pittstown	Severe: wetness.	Moderate: wetness.	Severe: wetness.	Moderate: slope, wetness.	Moderate: wetness, frost action.	Slight.
334C-------------- Pittstown	Severe: wetness.	Moderate: slope, wetness.	Severe: wetness.	Severe: slope.	Moderate: wetness, slope, frost action.	Moderate: slope.
336B-------------- Pittstown	Severe: wetness.	Moderate: wetness.	Severe: wetness.	Moderate: slope, wetness.	Moderate: wetness, frost action.	Moderate: large stones, small stones.
336C-------------- Pittstown	Severe: wetness.	Moderate: slope, wetness.	Severe: wetness.	Severe: slope.	Moderate: wetness, slope, frost action.	Moderate: slope, large stones.
340B, 341B-------- Stissing	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness, frost action.	Severe: wetness.
347B*:						
Lyme-------------	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness, frost action.	Severe: wetness.
Moosilauke-------	Severe: cutbanks cave, wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness, frost action.	Severe: wetness.
360B*:						
Cardigan---------	Severe: depth to rock.	Moderate: depth to rock.	Severe: depth to rock.	Moderate: slope, depth to rock.	Moderate: depth to rock, frost action.	Moderate: thin layer.
Kearsarge--------	Severe: depth to rock.	Severe: depth to rock.	Severe: depth to rock.	Severe: depth to rock.	Severe: depth to rock.	Severe: thin layer.
360C*:						
Cardigan---------	Severe: depth to rock.	Moderate: slope, depth to rock.	Severe: depth to rock.	Severe: slope.	Moderate: depth to rock, slope, frost action.	Moderate: slope, thin layer.
Kearsarge--------	Severe: depth to rock.	Severe: depth to rock.	Severe: depth to rock.	Severe: slope, depth to rock.	Severe: depth to rock.	Severe: thin layer.
360D*:						
Cardigan---------	Severe: depth to rock, slope.	Severe: slope.	Severe: depth to rock, slope.	Severe: slope.	Severe: slope.	Severe: slope.
Kearsarge--------	Severe: depth to rock, slope.	Severe: slope, depth to rock.	Severe: depth to rock, slope.	Severe: slope, depth to rock.	Severe: depth to rock, slope.	Severe: slope, thin layer.

See footnote at end of table.

TABLE 10.--BUILDING SITE DEVELOPMENT--Continued

Soil name and map symbol	Shallow excavations	Dwellings without basements	Dwellings with basements	Small commercial buildings	Local roads and streets	Lawns and landscaping
361C*:						
Cardigan----------	Severe: depth to rock.	Moderate: slope, depth to rock.	Severe: depth to rock.	Severe: slope.	Moderate: depth to rock, slope, frost action.	Moderate: small stones, large stones, slope.
Kearsarge---------	Severe: depth to rock.	Severe: depth to rock.	Severe: depth to rock.	Severe: slope, depth to rock.	Severe: depth to rock.	Severe: thin layer.
Rock outcrop.						
361D*:						
Cardigan----------	Severe: depth to rock, slope.	Severe: slope.	Severe: depth to rock, slope.	Severe: slope.	Severe: slope.	Severe: slope.
Kearsarge---------	Severe: depth to rock, slope.	Severe: slope, depth to rock.	Severe: depth to rock, slope.	Severe: slope, depth to rock.	Severe: depth to rock, slope.	Severe: slope, thin layer.
Rock outcrop.						
362E*:						
Kearsarge---------	Severe: depth to rock, slope.	Severe: slope, depth to rock.	Severe: depth to rock, slope.	Severe: slope, depth to rock.	Severe: depth to rock, slope.	Severe: slope, thin layer.
Cardigan----------	Severe: depth to rock, slope.	Severe: slope.	Severe: depth to rock, slope.	Severe: slope.	Severe: slope.	Severe: slope.
Rock outcrop.						
365C*:						
Berkshire---------	Moderate: slope, large stones.	Moderate: slope.	Moderate: slope.	Severe: slope, large stones.	Moderate: slope, frost action.	Severe: large stones.
Monadnock---------	Severe: cutbanks cave.	Moderate: slope.	Moderate: slope.	Severe: slope, large stones.	Moderate: slope.	Severe: large stones.
365D*, 365E*:						
Berkshire---------	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope, large stones.	Severe: slope.	Severe: slope, large stones.
Monadnock---------	Severe: cutbanks cave, slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: large stones, slope.
366B-------------- Dutchess	Slight----------	Slight----------	Slight----------	Moderate: slope.	Moderate: frost action.	Slight.
366C-------------- Dutchess	Moderate: slope.	Moderate: slope.	Moderate: slope.	Severe: slope.	Moderate: slope, frost action.	Moderate: slope.

See footnote at end of table.

TABLE 10.--BUILDING SITE DEVELOPMENT--Continued

Soil name and map symbol	Shallow excavations	Dwellings without basements	Dwellings with basements	Small commercial buildings	Local roads and streets	Lawns and landscaping
366D Dutchess	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.
367C Dutchess	Moderate: large stones, slope.	Moderate: slope, large stones.	Moderate: slope, large stones.	Severe: slope.	Moderate: slope, frost action, large stones.	Moderate: large stones, slope.
367D, 367E Dutchess	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.
395 Chocorua	Severe: cutbanks cave, excess humus, ponding.	Severe: ponding, shrink-swell, low strength.	Severe: ponding.	Severe: ponding, shrink-swell, low strength.	Severe: low strength, ponding, frost action.	Severe: ponding, excess humus.
399*. Rock outcrop						
401 Occum	Severe: cutbanks cave.	Severe: flooding.	Severe: flooding.	Severe: flooding.	Severe: flooding.	Moderate: flooding.
410A Haven	Severe: cutbanks cave.	Slight	Slight	Slight	Moderate: frost action.	Slight.
410B Haven	Severe: cutbanks cave.	Slight	Slight	Moderate: slope.	Moderate: frost action.	Slight.
410C Haven	Severe: cutbanks cave.	Moderate: slope.	Moderate: slope.	Severe: slope.	Moderate: slope, frost action.	Moderate: slope.
414 Moosilauke	Severe: cutbanks cave, wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness, frost action.	Severe: wetness.
495 Ossipee	Severe: excess humus, ponding.	Severe: ponding.	Severe: ponding.	Severe: ponding.	Severe: frost action, ponding.	Severe: ponding, excess humus.
510B Hoosic	Severe: cutbanks cave.	Slight	Slight	Moderate: slope.	Slight	Moderate: droughty, small stones.
510C Hoosic	Severe: cutbanks cave.	Moderate: slope.	Moderate: slope.	Severe: slope.	Moderate: slope.	Moderate: droughty, small stones.
510E Hoosic	Severe: slope, cutbanks cave.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.
513A Ninigret	Severe: cutbanks cave, wetness.	Moderate: wetness.	Severe: wetness.	Moderate: wetness.	Severe: frost action.	Moderate: wetness.
513B Ninigret	Severe: cutbanks cave, wetness.	Moderate: wetness.	Severe: wetness.	Moderate: wetness, slope.	Severe: frost action.	Moderate: wetness.

See footnote at end of table.

TABLE 10.--BUILDING SITE DEVELOPMENT--Continued

Soil name and map symbol	Shallow excavations	Dwellings without basements	Dwellings with basements	Small commercial buildings	Local roads and streets	Lawns and landscaping
526A------------- Caesar	Severe: cutbanks cave.	Slight---------	Slight---------	Slight---------	Slight---------	Severe: droughty.
526B------------- Caesar	Severe: cutbanks cave.	Slight---------	Slight---------	Moderate: slope.	Slight---------	Severe: droughty.
526C------------- Caesar	Severe: cutbanks cave.	Moderate: slope.	Moderate: slope.	Severe: slope.	Moderate: slope.	Severe: droughty.
526E------------- Caesar	Severe: cutbanks cave, slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: droughty, slope.
531A------------- Scio	Severe: wetness, cutbanks cave.	Moderate: wetness.	Severe: wetness.	Moderate: wetness.	Severe: frost action.	Moderate: wetness.
531B------------- Scio	Severe: wetness, cutbanks cave.	Moderate: wetness.	Severe: wetness.	Moderate: wetness, slope.	Severe: frost action.	Moderate: wetness.
533-------------- Raynham	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: frost action, wetness.	Severe: wetness.
558B------------- Skerry	Severe: wetness.	Moderate: wetness.	Severe: wetness.	Moderate: wetness, slope.	Severe: frost action.	Moderate: small stones, wetness.
559B------------- Skerry	Severe: wetness.	Moderate: wetness.	Severe: wetness.	Moderate: wetness, slope.	Severe: frost action.	Moderate: large stones, wetness.
559C------------- Skerry	Severe: wetness.	Moderate: wetness, slope.	Severe: wetness.	Severe: slope.	Severe: frost action.	Moderate: large stones, wetness, slope.
613B------------- Croghan	Severe: wetness, cutbanks cave.	Moderate: wetness.	Severe: wetness.	Moderate: slope, wetness.	Moderate: frost action, wetness.	Severe: droughty.
646B, 647B-------- Pillsbury	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness, frost action.	Severe: wetness.
771C*:						
Berkshire--------	Moderate: slope, large stones.	Moderate: slope.	Moderate: slope.	Severe: slope, large stones.	Moderate: slope, frost action.	Severe: large stones.
Monadnock--------	Severe: cutbanks cave.	Moderate: slope, large stones.	Moderate: slope, large stones.	Severe: slope, large stones.	Moderate: slope, large stones.	Severe: large stones.
771D*:						
Berkshire--------	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope, large stones.	Severe: slope.	Severe: slope, large stones.

See footnote at end of table.

TABLE 10.--BUILDING SITE DEVELOPMENT--Continued

Soil name and map symbol	Shallow excavations	Dwellings without basements	Dwellings with basements	Small commercial buildings	Local roads and streets	Lawns and landscaping
771D*:						
Monadnock--------	Severe: cutbanks cave, slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: large stones, slope.

* See description of the map unit for composition and behavior characteristics of the map unit.

TABLE 11.--SANITARY FACILITIES

(Some terms that describe restrictive soil features are defined in the Glossary. See text for definitions of "slight," "good," and other terms. Absence of an entry indicates that the soil was not rated. The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation)

Soil name and map symbol	Septic tank absorption fields	Sewage lagoon areas
2 Suncook	Severe: flooding, poor filter.	Severe: flooding, seepage.
4 Pootatuck	Severe: flooding, wetness, poor filter.	Severe: seepage, flooding, wetness.
5 Rippowam	Severe: flooding, wetness, poor filter.	Severe: flooding, seepage, wetness.
6 Saco	Severe: flooding, wetness.	Severe: seepage, flooding, wetness.
9 Winooski	Severe: flooding, wetness.	Severe: flooding, wetness, seepage.
10B Merrimac	Severe: poor filter.	Severe: seepage.
10C Merrimac	Severe: poor filter.	Severe: slope, seepage.
14B Sheepscot	Severe: wetness, poor filter.	Severe: seepage, wetness.
15 Searsport	Severe: ponding, poor filter.	Severe: seepage, excess humus, ponding.
22A, 22B Colton	Severe: poor filter.	Severe: seepage.
22C Colton	Severe: poor filter.	Severe: slope, seepage.
22E Colton	Severe: poor filter, slope.	Severe: slope, seepage.
24A, 24B Agawam	Severe: poor filter.	Severe: seepage.
24C Agawam	Severe: poor filter.	Severe: slope, seepage.

TABLE 11.--SANITARY FACILITIES--Continued

Soil name and map symbol	Septic tank absorption fields	Sewage lagoon areas
26A, 26B Windsor	Severe: poor filter.	Severe: seepage.
26C Windsor	Severe: poor filter.	Severe: seepage, slope.
26E Windsor	Severe: poor filter, slope.	Severe: seepage, slope.
30A, 30B Unadilla	Slight	Severe: seepage.
30C Unadilla	Moderate: slope.	Severe: slope, seepage.
36A, 36B Adams	Severe: poor filter.	Severe: seepage.
36C Adams	Severe: poor filter.	Severe: slope, seepage.
36E Adams	Severe: poor filter, slope.	Severe: slope, seepage.
56B Becket	Severe: percs slowly.	Moderate: seepage, slope.
56C Becket	Severe: percs slowly.	Severe: slope.
57B Becket	Severe: percs slowly.	Moderate: seepage, slope.
57C Becket	Severe: percs slowly.	Severe: slope.
57D Becket	Severe: percs slowly, slope.	Severe: slope.
60B*:		
Tunbridge	Severe: depth to rock.	Severe: seepage, depth to rock.
Berkshire	Slight	Severe: seepage.
60C*:		
Tunbridge	Severe: depth to rock.	Severe: seepage, depth to rock, slope.

See footnote at end of table.

TABLE 11.--SANITARY FACILITIES--Continued

Soil name and map symbol	Septic tank absorption fields	Sewage lagoon areas
60C*:		
Berkshire	Moderate: slope.	Severe: slope, seepage.
60D*:		
Tunbridge	Severe: depth to rock, slope.	Severe: seepage, depth to rock, slope.
Berkshire	Severe: slope.	Severe: slope, seepage.
61B*:		
Tunbridge	Severe: depth to rock.	Severe: seepage, depth to rock.
Lyman	Severe: depth to rock.	Severe: depth to rock.
Rock outcrop.		
61C*:		
Tunbridge	Severe: depth to rock.	Severe: seepage, depth to rock, slope.
Lyman	Severe: depth to rock.	Severe: slope, depth to rock.
Rock outcrop.		
61D*:		
Tunbridge	Severe: depth to rock, slope.	Severe: seepage, depth to rock, slope.
Lyman	Severe: slope, depth to rock.	Severe: slope, depth to rock.
Rock outcrop.		
72B Berkshire	Slight	Severe: seepage.
72C Berkshire	Moderate: slope.	Severe: slope, seepage.
72D Berkshire	Severe: slope.	Severe: slope, seepage.

See footnote at end of table.

TABLE 11.--SANITARY FACILITIES--Continued

Soil name and map symbol	Septic tank absorption fields	Sewage lagoon areas
73B Berkshire	Slight	Severe: seepage.
73C Berkshire	Moderate: slope.	Severe: slope, seepage.
73D Berkshire	Severe: slope.	Severe: slope, seepage.
76B Marlow	Severe: percs slowly.	Moderate: seepage, slope.
76C Marlow	Severe: percs slowly.	Severe: slope.
76D Marlow	Severe: percs slowly, slope.	Severe: slope.
77B Marlow	Severe: percs slowly.	Moderate: seepage, slope.
77C Marlow	Severe: percs slowly.	Severe: slope.
77D, 77E Marlow	Severe: percs slowly, slope.	Severe: slope.
78B Peru	Severe: wetness, percs slowly.	Moderate: seepage, slope.
78C Peru	Severe: wetness, percs slowly.	Severe: slope.
79B Peru	Severe: wetness, percs slowly.	Moderate: seepage, slope.
79C Peru	Severe: wetness, percs slowly.	Severe: slope.
79D Peru	Severe: wetness, percs slowly, slope.	Severe: slope.
107*: Rippowam	Severe: flooding, wetness, poor filter.	Severe: flooding, seepage, wetness.

See footnote at end of table.

TABLE 11.--SANITARY FACILITIES--Continued

Soil name and map symbol	Septic tank absorption fields	Sewage lagoon areas
107*:		
Saco	Severe: flooding, wetness.	Severe: seepage, flooding, wetness.
108 Hadley	Severe: flooding.	Severe: flooding, seepage.
109 Limerick	Severe: flooding, wetness.	Severe: flooding, wetness.
142B Monadnock	Slight	Severe: seepage.
142C Monadnock	Moderate: slope.	Severe: seepage, slope.
143B Monadnock	Slight	Severe: seepage.
143C Monadnock	Moderate: slope.	Severe: seepage, slope.
143D Monadnock	Severe: slope.	Severe: seepage, slope.
161E*:		
Lyman	Severe: slope, depth to rock.	Severe: slope, depth to rock.
Tunbridge	Severe: depth to rock, slope.	Severe: seepage, depth to rock, slope.
Rock outcrop.		
168B, 169B Sunapee	Severe: wetness.	Severe: seepage, wetness.
169C Sunapee	Severe: wetness.	Severe: seepage, wetness, slope.
197. Borohemists		
214 Naumburg	Severe: wetness, poor filter.	Severe: seepage, wetness.

See footnote at end of table.

TABLE 11.--SANITARY FACILITIES--Continued

Soil name and map symbol	Septic tank absorption fields	Sewage lagoon areas
218*:		
Raynham	Severe: flooding, percs slowly, wetness.	Severe: wetness, flooding.
Wareham	Severe: flooding, wetness, poor filter.	Severe: seepage, flooding, wetness.
230E Poocham	Severe: slope, slippage.	Severe: slope, slippage.
295 Greenwood	Severe: subsides, ponding.	Severe: seepage, excess humus, ponding.
298*. Pits		
299. Udorthents		
330B Bernardston	Severe: percs slowly.	Moderate: slope.
330C Bernardston	Severe: percs slowly.	Severe: slope.
330D Bernardston	Severe: percs slowly, slope.	Severe: slope.
331C Bernardston	Severe: percs slowly.	Severe: slope.
331D, 331E Bernardston	Severe: percs slowly, slope.	Severe: slope.
334B Pittstown	Severe: wetness, percs slowly.	Moderate: slope.
334C Pittstown	Severe: wetness, percs slowly.	Severe: slope.
336B Pittstown	Severe: percs slowly, wetness.	Moderate: slope.
336C Pittstown	Severe: percs slowly, wetness.	Severe: slope.

See footnote at end of table.

TABLE 11.--SANITARY FACILITIES--Continued

Soil name and map symbol	Septic tank absorption fields	Sewage lagoon areas
340B, 341B Stissing	Severe: wetness, percs slowly.	Moderate: slope.
347B*:		
Lyme	Severe: wetness.	Severe: seepage, wetness.
Moosilauke	Severe: wetness, poor filter.	Severe: seepage, wetness.
360B*:		
Cardigan	Severe: depth to rock.	Severe: depth to rock.
Kearsarge	Severe: depth to rock.	Severe: depth to rock.
360C*:		
Cardigan	Severe: depth to rock.	Severe: depth to rock, slope.
Kearsarge	Severe: depth to rock.	Severe: depth to rock, slope.
360D*:		
Cardigan	Severe: depth to rock, slope.	Severe: depth to rock, slope.
Kearsarge	Severe: depth to rock, slope.	Severe: depth to rock, slope.
361C*:		
Cardigan	Severe: depth to rock.	Severe: depth to rock, slope.
Kearsarge	Severe: depth to rock.	Severe: depth to rock, slope.
Rock outcrop.		
361D*:		
Cardigan	Severe: depth to rock, slope.	Severe: depth to rock, slope.
Kearsarge	Severe: depth to rock, slope.	Severe: depth to rock, slope.
Rock outcrop.		

See footnote at end of table.

TABLE 11.--SANITARY FACILITIES--Continued

Soil name and map symbol	Septic tank absorption fields	Sewage lagoon areas
362E*:		
Kearsarge	Severe: depth to rock, slope.	Severe: depth to rock, slope.
Cardigan	Severe: depth to rock, slope.	Severe: depth to rock, slope.
Rock outcrop.		
365C*:		
Berkshire	Moderate: slope, large stones.	Severe: slope, seepage.
Monadnock	Moderate: slope, large stones.	Severe: seepage, slope.
365D*, 365E*:		
Berkshire	Severe: slope.	Severe: slope, seepage.
Monadnock	Severe: slope.	Severe: seepage, slope.
366B Dutchess	Moderate: percs slowly.	Moderate: seepage, slope.
366C Dutchess	Moderate: percs slowly, slope.	Severe: slope.
366D Dutchess	Severe: slope.	Severe: slope.
367C Dutchess	Moderate: percs slowly, slope, large stones.	Severe: slope.
367D, 367E Dutchess	Severe: slope.	Severe: slope.
395 Chocorua	Severe: ponding, poor filter.	Severe: seepage, excess humus, ponding.
399*. Rock outcrop		
401 Occum	Severe: flooding, poor filter.	Severe: seepage, flooding.

See footnote at end of table.

TABLE 11.--SANITARY FACILITIES--Continued

Soil name and map symbol	Septic tank absorption fields	Sewage lagoon areas
410A, 410B: Haven	Severe: poor filter.	Severe: seepage.
410C: Haven	Severe: poor filter.	Severe: slope, seepage.
414: Moosilauke	Severe: wetness, poor filter.	Severe: seepage, wetness.
495: Ossipee	Severe: ponding, percs slowly.	Severe: seepage, excess humus, ponding.
510B: Hoosic	Severe: poor filter.	Severe: seepage.
510C: Hoosic	Severe: poor filter.	Severe: slope, seepage.
510E: Hoosic	Severe: poor filter, slope.	Severe: slope, seepage.
513A, 513B: Ninigret	Severe: wetness, poor filter.	Severe: seepage, wetness.
526A, 526B: Caesar	Severe: poor filter.	Severe: seepage.
526C: Caesar	Severe: poor filter.	Severe: seepage, slope.
526E: Caesar	Severe: poor filter, slope.	Severe: seepage, slope.
531A, 531B: Scio	Severe: wetness.	Severe: seepage.
533: Raynham	Severe: percs slowly, wetness.	Severe: wetness.
558B, 559B: Skerry	Severe: wetness, percs slowly.	Moderate: seepage, slope.
559C: Skerry	Severe: wetness, percs slowly.	Severe: slope.
613B: Croghan	Severe: wetness, poor filter.	Severe: seepage, wetness.

See footnote at end of table.

TABLE 11.--SANITARY FACILITIES--Continued

Soil name and map symbol	Septic tank absorption fields	Sewage lagoon areas
646B----------------------------------- Pillsbury	Severe: wetness, percs slowly.	Moderate: slope.
647B----------------------------------- Pillsbury	Severe: wetness, percs slowly.	Severe: wetness.
771C*:		
Berkshire-----------------------------	Moderate: slope, large stones.	Severe: slope, seepage, large stones.
Monadnock-----------------------------	Moderate: large stones, slope.	Severe: seepage, slope, large stones.
771D*:		
Berkshire-----------------------------	Severe: slope.	Severe: slope, seepage, large stones.
Monadnock-----------------------------	Severe: slope.	Severe: seepage, slope, large stones.

* See description of the map unit for composition and behavior characteristics of the map unit.

TABLE 12.--CONSTRUCTION MATERIALS

(Some terms that describe restrictive soil features are defined in the Glossary. See text for definitions of "good," "fair," and other terms. Absence of an entry indicates that the soil was not rated. The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation)

Soil name and map symbol	Roadfill	Sand	Gravel	Topsoil
2 Suncook	Good	Probable	Improbable: too sandy.	Poor: too sandy.
4 Pootatuck	Fair: wetness.	Probable	Improbable: too sandy.	Fair: thin layer.
5 Rippowam	Poor: wetness.	Probable	Improbable: too sandy.	Poor: wetness.
6 Saco	Poor: wetness.	Probable	Improbable: too sandy.	Poor: wetness.
9 Winooski	Fair: wetness, low strength.	Improbable: excess fines.	Improbable: excess fines.	Good.
10B, 10C Merrimac	Good	Probable	Probable	Poor: small stones, area reclaim.
14B Sheepscot	Fair: wetness.	Probable	Probable	Poor: small stones, area reclaim, too sandy.
15 Searsport	Poor: wetness.	Probable	Improbable: too sandy.	Poor: too sandy, wetness.
22A, 22B, 22C Colton	Good	Probable	Probable	Poor: small stones, too sandy.
22E Colton	Poor: slope.	Probable	Probable	Poor: slope, small stones, too sandy.
24A, 24B, 24C Agawam	Good	Probable	Improbable: too sandy.	Poor: too sandy, area reclaim.
26A, 26B, 26C Windsor	Good	Probable	Improbable: too sandy.	Poor: too sandy.
26E Windsor	Poor: slope.	Probable	Improbable: too sandy.	Poor: too sandy, slope.
30A, 30B, 30C Unadilla	Good	Improbable: excess fines.	Improbable: excess fines.	Moderate: area reclaim.
36A, 36B, 36C Adams	Good	Probable	Improbable: too sandy.	Poor: too sandy.

TABLE 12.--CONSTRUCTION MATERIALS--Continued

Soil name and map symbol	Roadfill	Sand	Gravel	Topsoil
36E------------------ Adams	Poor: slope.	Probable------------	Improbable: too sandy.	Poor: slope, too sandy.
56B, 56C, 57B, 57C---- Becket	Good----------------	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones.
57D------------------ Becket	Fair: slope.	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones, slope.
60B*, 60C*:				
Tunbridge------------	Poor: area reclaim.	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones.
Berkshire------------	Good----------------	Improbable: excess fines.	Improbable: excess fines.	Poor: large stones.
60D*:				
Tunbridge------------	Poor: area reclaim.	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones, slope.
Berkshire------------	Fair: slope.	Improbable: excess fines.	Improbable: excess fines.	Poor: large stones, slope.
61B*, 61C*:				
Tunbridge------------	Poor: area reclaim.	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones.
Lyman----------------	Poor: depth to rock.	Improbable: excess fines.	Improbable: excess fines.	Poor: depth to rock, small stones.
Rock outcrop.				
61D*:				
Tunbridge------------	Poor: area reclaim.	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones, slope.
Lyman----------------	Poor: depth to rock.	Improbable: excess fines.	Improbable: excess fines.	Poor: depth to rock, small stones, slope.
Rock outcrop.				
72B, 72C------------- Berkshire	Good----------------	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones.
72D------------------ Berkshire	Fair: slope.	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones, slope.
73B, 73C------------- Berkshire	Good----------------	Improbable: excess fines.	Improbable: excess fines.	Poor: large stones.

See footnote at end of table.

TABLE 12.--CONSTRUCTION MATERIALS--Continued

Soil name and map symbol	Roadfill	Sand	Gravel	Topsoil
73D Berkshire	Fair: slope.	Improbable: excess fines.	Improbable: excess fines.	Poor: large stones, slope.
76B, 76C Marlow	Good	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones.
76D Marlow	Fair: slope.	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones, slope.
77B, 77C Marlow	Good	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones.
77D Marlow	Fair: slope.	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones, slope.
77E Marlow	Poor: slope.	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones, slope.
78B, 78C, 79B, 79C Peru	Fair: wetness.	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones.
79D Peru	Fair: wetness, slope.	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones, slope.
107*:				
Rippowam	Poor: wetness.	Probable	Improbable: too sandy.	Poor: wetness.
Saco	Poor: wetness.	Probable	Improbable: too sandy.	Poor: wetness.
108 Hadley	Fair: low strength.	Improbable: excess fines.	Improbable: excess fines.	Good.
109 Limerick	Poor: wetness.	Improbable: excess fines.	Improbable: excess fines.	Poor: wetness.
142B Monadnock	Good	Probable	Improbable: too sandy.	Fair: small stones.
142C Monadnock	Good	Probable	Improbable: too sandy.	Fair: small stones, slope.
143B, 143C Monadnock	Good	Probable	Improbable: too sandy.	Poor: small stones.
143D Monadnock	Fair: slope.	Probable	Improbable: too sandy.	Poor: small stones, slope.
161E*:				
Lyman	Poor: depth to rock, slope.	Improbable: excess fines.	Improbable: excess fines.	Poor: depth to rock, small stones, slope.

See footnote at end of table.

TABLE 12.--CONSTRUCTION MATERIALS--Continued

Soil name and map symbol	Roadfill	Sand	Gravel	Topsoil
161E*:				
Tunbridge	Poor: area reclaim, slope.	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones, slope.
Rock outcrop.				
168B, 169B, 169C Sunapee	Fair: wetness.	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones.
197. Borohemists				
214 Naumburg	Poor: wetness.	Probable	Improbable: too sandy.	Poor: too sandy, wetness.
218*:				
Raynham	Poor: wetness.	Improbable: excess fines.	Improbable: excess fines.	Poor: wetness.
Wareham	Poor: wetness.	Probable	Improbable: too sandy.	Poor: wetness, area reclaim.
230E Poocham	Poor: slope.	Improbable: excess fines.	Improbable: excess fines.	Poor: slope.
295 Greenwood	Poor: wetness, low strength.	Improbable: excess humus.	Improbable: excess humus.	Poor: excess humus, wetness.
298*. Pits				
299. Udorthents				
330B, 330C Bernardston	Fair: low strength.	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones.
330D Bernardston	Fair: low strength, slope.	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones, slope.
331C Bernardston	Fair: low strength.	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones.
331D Bernardston	Fair: low strength, slope.	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones, slope.
331E Bernardston	Poor: slope.	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones, slope.
334B, 334C, 336B, 336C Pittstown	Fair: wetness.	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones, area reclaim.

See footnote at end of table.

TABLE 12.--CONSTRUCTION MATERIALS--Continued

Soil name and map symbol	Roadfill	Sand	Gravel	Topsoil
340B, 341B: Stissing	Poor: wetness.	Improbable: excess fines.	Improbable: excess fines.	Poor: area reclaim, small stones, wetness.
347B*:				
Lyme	Poor: wetness.	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones, wetness.
Moosilauke	Poor: wetness.	Probable	Probable	Poor: too sandy, wetness.
360B*:				
Cardigan	Poor: area reclaim.	Improbable: excess fines.	Improbable: excess fines.	Fair: area reclaim, small stones.
Kearsarge	Poor: area reclaim.	Improbable: excess fines.	Improbable: excess fines.	Poor: area reclaim, small stones.
360C*:				
Cardigan	Poor: area reclaim.	Improbable: excess fines.	Improbable: excess fines.	Fair: area reclaim, slope.
Kearsarge	Poor: area reclaim.	Improbable: excess fines.	Improbable: excess fines.	Poor: area reclaim, small stones.
360D*:				
Cardigan	Poor: area reclaim.	Improbable: excess fines.	Improbable: excess fines.	Poor: slope.
Kearsarge	Poor: area reclaim.	Improbable: excess fines.	Improbable: excess fines.	Poor: area reclaim, small stones, slope.
361C*:				
Cardigan	Poor: area reclaim.	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones.
Kearsarge	Poor: area reclaim.	Improbable: excess fines.	Improbable: excess fines.	Poor: area reclaim, small stones.
Rock outcrop.				
361D*:				
Cardigan	Poor: area reclaim.	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones, slope.
Kearsarge	Poor: area reclaim.	Improbable: excess fines.	Improbable: excess fines.	Poor: area reclaim, small stones, slope.

See footnote at end of table.

TABLE 12.--CONSTRUCTION MATERIALS--Continued

Soil name and map symbol	Roadfill	Sand	Gravel	Topsoil
361D*:				
Rock outcrop.				
362E*:				
Kearsarge	Poor: area reclaim, slope.	Improbable: excess fines.	Improbable: excess fines.	Poor: area reclaim, small stones, slope.
Cardigan	Poor: area reclaim, slope.	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones, slope.
Rock outcrop.				
365C*:				
Berkshire	Good	Improbable: excess fines.	Improbable: excess fines.	Poor: large stones.
Monadnock	Good	Probable	Improbable: too sandy.	Poor: large stones, small stones.
365D*:				
Berkshire	Fair: slope.	Improbable: excess fines.	Improbable: excess fines.	Poor: large stones, slope.
Monadnock	Fair: slope.	Probable	Improbable: too sandy.	Poor: large stones, small stones, slope.
365E*:				
Berkshire	Poor: slope.	Improbable: excess fines.	Improbable: excess fines.	Poor: large stones, slope.
Monadnock	Poor: slope.	Probable	Improbable: too sandy.	Poor: large stones, small stones, slope.
366B, 366C Dutchess	Fair: low strength.	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones.
366D Dutchess	Fair: low strength, slope.	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones, slope.
367C Dutchess	Fair: low strength.	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones.
367D Dutchess	Fair: low strength, slope.	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones, slope.

See footnote at end of table.

TABLE 12.--CONSTRUCTION MATERIALS--Continued

Soil name and map symbol	Roadfill	Sand	Gravel	Topsoil
367E Dutchess	Poor: slope.	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones, slope.
395 Chocorua	Poor: wetness.	Probable	Improbable: too sandy.	Poor: excess humus, wetness.
399*. Rock outcrop				
401 Occum	Good	Probable	Improbable: too sandy.	Fair: area reclaim, thin layer.
410A, 410B, 410C Haven	Good	Probable	Probable	Poor: too sandy, area reclaim.
414 Moosilauke	Poor: wetness.	Probable	Probable	Poor: too sandy, wetness.
495 Ossipee	Poor: wetness.	Improbable: excess fines.	Improbable: excess fines.	Poor: excess humus, wetness.
510B, 510C Hoosic	Good	Probable	Probable	Poor: small stones, area reclaim.
510E Hoosic	Poor: slope.	Probable	Probable	Poor: small stones, area reclaim, slope.
513A, 513B Ninigret	Fair: wetness.	Probable	Probable	Poor: small stones, area reclaim.
526A, 526B, 526C Caesar	Good	Probable	Improbable: too sandy.	Fair: too sandy, small stones.
526E Caesar	Poor: slope.	Probable	Improbable: too sandy.	Poor: slope.
531A, 531B Scio	Fair: wetness.	Improbable: excess fines.	Improbable: excess fines.	Fair: area reclaim.
533 Raynham	Poor: wetness.	Improbable: excess fines.	Improbable: excess fines.	Poor: wetness.
558B, 559B, 559C Skerry	Fair: wetness.	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones.
613B Croghan	Fair: wetness.	Probable	Improbable: too sandy.	Fair: too sandy, small stones.

See footnote at end of table.

TABLE 12.--CONSTRUCTION MATERIALS--Continued

Soil name and map symbol	Roadfill	Sand	Gravel	Topsoil
646B: Pillsbury	Poor: thin layer, wetness.	Improbable: excess fines.	Improbable: excess fines.	Poor: wetness.
647B: Pillsbury	Poor: thin layer, wetness.	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones, wetness.
771C*:				
Berkshire	Fair: large stones.	Improbable: excess fines.	Improbable: excess fines.	Poor: large stones.
Monadnock	Fair: large stones.	Probable	Improbable: too sandy.	Poor: large stones, small stones.
771D*:				
Berkshire	Fair: large stones, slope.	Improbable: excess fines.	Improbable: excess fines.	Poor: large stones, slope.
Monadnock	Fair: large stones, slope.	Probable	Improbable: too sandy.	Poor: large stones, small stones, slope.

* See description of the map unit for composition and behavior characteristics of the map unit.

TABLE 13.--WATER MANAGEMENT

(Some terms that describe restrictive soil features are defined in the Glossary. See text for definitions of "slight," "moderate," and "severe." Absence of an entry indicates that the soil was not evaluated. The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation)

Soil name and map symbol	Limitations for-- Pond reservoir areas	Embankments, dikes, and levees	Aquifer-fed excavated ponds	Features affecting-- Drainage	Irrigation	Terraces and diversions	Grassed waterways
2----------------- Suncook	Severe: seepage.	Severe: seepage, piping.	Severe: cutbanks cave.	Deep to water	Droughty, fast intake, flooding.	Too sandy------	Droughty.
4----------------- Pootatuck	Severe: seepage.	Severe: seepage, piping, wetness.	Severe: cutbanks cave.	Flooding, cutbanks cave.	Wetness, flooding.	Wetness, too sandy.	Favorable.
5----------------- Rippowam	Severe: seepage.	Severe: seepage, piping, wetness.	Severe: cutbanks cave.	Flooding, frost action, cutbanks cave.	Wetness, flooding.	Wetness, too sandy, poor outlets.	Wetness.
6----------------- Saco	Moderate: seepage.	Severe: piping, wetness.	Severe: cutbanks cave.	Flooding, frost action, poor outlets.	Wetness, flooding.	Wetness, poor outlets.	Wetness.
9----------------- Winooski	Severe: seepage.	Severe: piping.	Severe: cutbanks cave.	Flooding, frost action, cutbanks cave.	Wetness, erodes easily, flooding.	Erodes easily, wetness.	Erodes easily.
10B--------------- Merrimac	Severe: seepage.	Severe: seepage.	Severe: no water.	Deep to water	Slope----------	Too sandy------	Favorable.
10C--------------- Merrimac	Severe: slope, seepage.	Severe: seepage.	Severe: no water.	Deep to water	Slope----------	Slope, too sandy.	Slope.
14B--------------- Sheepscot	Severe: seepage.	Severe: seepage, wetness.	Severe: cutbanks cave.	Slope, cutbanks cave.	Wetness, droughty, slope.	Wetness, too sandy.	Droughty.

TABLE 13.--WATER MANAGEMENT--Continued

Soil name and map symbol	Limitations for-- Pond reservoir areas	Embankments, dikes, and levees	Aquifer-fed excavated ponds	Features affecting-- Drainage	Irrigation	Terraces and diversions	Grassed waterways
15: Searsport	Severe: seepage.	Severe: seepage, piping, ponding.	Severe: cutbanks cave.	Ponding, cutbanks cave.	Ponding, droughty.	Ponding, too sandy.	Wetness, droughty.
22A: Colton	Severe: seepage.	Severe: seepage.	Severe: no water.	Deep to water	Droughty, fast intake.	Large stones, too sandy.	Droughty, large stones.
22B: Colton	Severe: seepage.	Severe: seepage.	Severe: no water.	Deep to water	Droughty, fast intake, slope.	Large stones, too sandy.	Droughty, large stones.
22C, 22E: Colton	Severe: seepage, slope.	Severe: seepage.	Severe: no water.	Deep to water	Droughty, fast intake, slope.	Slope, large stones, too sandy.	Slope, droughty, large stones.
24A: Agawam	Severe: seepage.	Severe: seepage.	Severe: no water.	Deep to water	Favorable	Too sandy	Favorable.
24B: Agawam	Severe: seepage.	Severe: seepage.	Severe: no water.	Deep to water	Slope	Too sandy	Favorable.
24C: Agawam	Severe: slope, seepage.	Severe: seepage.	Severe: no water.	Deep to water	Slope	Slope, too sandy.	Slope.
26A: Windsor	Severe: seepage.	Severe: seepage, piping.	Severe: no water.	Deep to water	Droughty, fast intake.	Too sandy	Droughty.
26B: Windsor	Severe: seepage.	Severe: seepage, piping.	Severe: no water.	Deep to water	Slope, droughty, fast intake.	Too sandy	Droughty.
26C, 26E: Windsor	Severe: seepage, slope.	Severe: seepage, piping.	Severe: no water.	Deep to water	Slope, droughty, fast intake.	Slope, too sandy.	Slope, droughty.
30A: Unadilla	Moderate: seepage.	Severe: piping.	Severe: no water.	Deep to water	Erodes easily	Erodes easily	Erodes easily.

TABLE 13.--WATER MANAGEMENT--Continued

Soil name and map symbol	Limitations for-- Pond reservoir areas	Embankments, dikes, and levees	Aquifer-fed excavated ponds	Features affecting-- Drainage	Irrigation	Terraces and diversions	Grassed waterways
30B Unadilla	Moderate: seepage, slope.	Severe: piping.	Severe: no water.	Deep to water	Erodes easily, slope.	Erodes easily	Erodes easily.
30C Unadilla	Severe: slope.	Severe: piping.	Severe: no water.	Deep to water	Erodes easily, slope.	Slope, erodes easily.	Slope, erodes easily.
36A Adams	Severe: seepage.	Severe: seepage, piping.	Severe: no water.	Deep to water	Droughty, fast intake.	Too sandy	Droughty.
36B Adams	Severe: seepage.	Severe: seepage, piping.	Severe: no water.	Deep to water	Droughty, fast intake, slope.	Too sandy	Droughty.
36C, 36E Adams	Severe: seepage, slope.	Severe: seepage, piping.	Severe: no water.	Deep to water	Droughty, fast intake, slope.	Slope, too sandy.	Slope, droughty.
56B Becket	Moderate: seepage, slope.	Moderate: seepage.	Severe: no water.	Deep to water	Percs slowly, rooting depth, slope.	Percs slowly	Rooting depth, percs slowly.
56C Becket	Severe: slope.	Moderate: seepage.	Severe: no water.	Deep to water	Percs slowly, rooting depth, slope.	Slope, percs slowly.	Slope, rooting depth, percs slowly.
57B Becket	Moderate: seepage, slope.	Moderate: seepage.	Severe: no water.	Deep to water	Rooting depth, slope.	Percs slowly	Rooting depth, percs slowly.
57C, 57D Becket	Severe: slope.	Moderate: seepage.	Severe: no water.	Deep to water	Rooting depth, slope.	Slope, percs slowly.	Slope, rooting depth, percs slowly.
60B*:							
Tunbridge	Severe: seepage.	Severe: piping.	Severe: no water.	Deep to water	Droughty, depth to rock, slope.	Large stones, depth to rock.	Large stones, droughty.

See footnote at end of table.

TABLE 13.--WATER MANAGEMENT--Continued

Soil name and map symbol	Limitations for-- Pond reservoir areas	Embankments, dikes, and levees	Aquifer-fed excavated ponds	Features affecting-- Drainage	Irrigation	Terraces and diversions	Grassed waterways
60B*:							
Berkshire	Severe: seepage.	Severe: piping.	Severe: no water.	Deep to water	Slope	Slope, large stones.	Large stones.
60C*, 60D*:							
Tunbridge	Severe: seepage, slope.	Severe: piping.	Severe: no water.	Deep to water	Droughty, depth to rock, slope.	Slope, large stones, depth to rock.	Large stones, slope, droughty.
Berkshire	Severe: slope, seepage.	Severe: piping.	Severe: no water.	Deep to water	Slope	Slope, large stones.	Slope, large stones.
61B*:							
Tunbridge	Severe: seepage.	Severe: piping.	Severe: no water.	Deep to water	Droughty, depth to rock, slope.	Large stones, depth to rock.	Large stones, droughty.
Lyman	Severe: depth to rock.	Severe: thin layer, piping.	Severe: no water.	Deep to water	Droughty, depth to rock, slope.	Depth to rock	Droughty, depth to rock.
Rock outcrop.							
61C*, 61D*:							
Tunbridge	Severe: seepage, slope.	Severe: piping.	Severe: no water.	Deep to water	Droughty, depth to rock, slope.	Slope, large stones, depth to rock.	Large stones, slope, droughty.
Lyman	Severe: depth to rock, slope.	Severe: thin layer, piping.	Severe: no water.	Deep to water	Droughty, depth to rock, slope.	Slope, depth to rock.	Slope, droughty, depth to rock.
Rock outcrop.							
72B Berkshire	Severe: seepage.	Severe: piping.	Severe: no water.	Deep to water	Slope	Favorable	Favorable.

See footnote at end of table.

TABLE 13.--WATER MANAGEMENT--Continued

Soil name and map symbol	Limitations for-- Pond reservoir areas	Embankments, dikes, and levees	Aquifer-fed excavated ponds	Features affecting-- Drainage	Irrigation	Terraces and diversions	Grassed waterways
72C, 72D---------- Berkshire	Severe: slope, seepage.	Severe: piping.	Severe: no water.	Deep to water	Slope----------	Slope----------	Slope.
73B--------------- Berkshire	Severe: seepage.	Severe: piping.	Severe: no water.	Deep to water	Slope----------	Slope, large stones.	Large stones.
73C, 73D---------- Berkshire	Severe: slope, seepage.	Severe: piping.	Severe: no water.	Deep to water	Slope----------	Slope, large stones.	Slope, large stones.
76B--------------- Marlow	Moderate: slope.	Severe: piping.	Severe: no water.	Deep to water	Percs slowly, rooting depth, slope.	Percs slowly---	Rooting depth, percs slowly.
76C, 76D---------- Marlow	Severe: slope.	Severe: piping.	Severe: no water.	Deep to water	Percs slowly, rooting depth, slope.	Slope, percs slowly.	Slope, rooting depth, percs slowly.
77B--------------- Marlow	Moderate: slope.	Severe: piping.	Severe: no water.	Deep to water	Percs slowly, rooting depth, slope.	Percs slowly---	Rooting depth, percs slowly.
77C, 77D, 77E----- Marlow	Severe: slope.	Severe: piping.	Severe: no water.	Deep to water	Percs slowly, rooting depth, slope.	Slope, percs slowly.	Slope, rooting depth, percs slowly.
78B--------------- Peru	Moderate: seepage, slope.	Severe: piping.	Severe: no water.	Percs slowly, frost action, slope.	Wetness, percs slowly, slope.	Wetness, percs slowly.	Rooting depth, percs slowly.
78C--------------- Peru	Severe: slope.	Severe: piping.	Severe: no water.	Percs slowly, frost action, slope.	Wetness, percs slowly, slope.	Slope, wetness, percs slowly.	Slope, rooting depth, percs slowly.
79B--------------- Peru	Moderate: seepage, slope.	Severe: piping.	Severe: no water.	Percs slowly, frost action, slope.	Wetness, percs slowly, slope.	Wetness, percs slowly.	Rooting depth, percs slowly.

See footnote at end of table.

TABLE 13.--WATER MANAGEMENT--Continued

Soil name and map symbol	Limitations for-- Pond reservoir areas	Embankments, dikes, and levees	Aquifer-fed excavated ponds	Features affecting-- Drainage	Irrigation	Terraces and diversions	Grassed waterways
79C, 79D Peru	Severe: slope.	Severe: piping.	Severe: no water.	Percs slowly, frost action, slope.	Wetness, percs slowly, slope.	Slope, wetness, percs slowly.	Slope, rooting depth, percs slowly.
107*: Rippowam	Severe: seepage.	Severe: seepage, piping, wetness.	Severe: cutbanks cave.	Flooding, frost action, cutbanks cave.	Wetness, flooding.	Wetness, too sandy, poor outlets.	Wetness.
Saco	Moderate: seepage.	Severe: piping, wetness.	Severe: cutbanks cave.	Flooding, frost action, poor outlets.	Wetness, flooding.	Wetness, poor outlets.	Wetness.
108 Hadley	Severe: seepage.	Severe: piping.	Moderate: deep to water.	Deep to water	Flooding, erodes easily.	Erodes easily	Erodes easily.
109 Limerick	Moderate: seepage.	Severe: piping, wetness.	Moderate: slow refill.	Flooding, frost action.	Wetness, flooding, erodes easily.	Wetness, erodes easily.	Wetness, erodes easily.
142B Monadnock	Severe: seepage.	Severe: seepage.	Severe: no water.	Deep to water	Slope	Too sandy	Favorable.
142C Monadnock	Severe: seepage, slope.	Severe: seepage.	Severe: no water.	Deep to water	Slope	Slope, too sandy.	Slope.
143B Monadnock	Severe: seepage.	Severe: seepage.	Severe: no water.	Deep to water	Slope	Too sandy	Favorable.
143C, 143D Monadnock	Severe: seepage, slope.	Severe: seepage.	Severe: no water.	Deep to water	Slope	Slope, too sandy.	Slope.
161E*: Lyman	Severe: depth to rock, slope.	Severe: thin layer, piping.	Severe: no water.	Deep to water	Droughty, depth to rock, slope.	Slope, depth to rock.	Slope, droughty, depth to rock.

See footnote at end of table.

TABLE 13.--WATER MANAGEMENT--Continued

Soil name and map symbol	Limitations for-- Pond reservoir areas	Limitations for-- Embankments, dikes, and levees	Limitations for-- Aquifer-fed excavated ponds	Features affecting-- Drainage	Features affecting-- Irrigation	Features affecting-- Terraces and diversions	Features affecting-- Grassed waterways
161E*:							
Tunbridge	Severe: seepage, slope.	Severe: piping.	Severe: no water.	Deep to water	Droughty, depth to rock, slope.	Slope, large stones, depth to rock.	Large stones, slope, droughty.
Rock outcrop.							
168B, 169B Sunapee	Severe: seepage.	Severe: piping, wetness.	Severe: cutbanks cave.	Slope, cutbanks cave.	Wetness, slope.	Wetness, too sandy.	Favorable.
169C Sunapee	Severe: seepage, slope.	Severe: piping, wetness.	Severe: cutbanks cave.	Slope, cutbanks cave.	Wetness, slope.	Slope, wetness, too sandy.	Slope.
197. Borohemists							
214 Naumburg	Severe: seepage.	Severe: seepage, piping, wetness.	Severe: cutbanks cave.	Cutbanks cave	Wetness, droughty, fast intake.	Wetness, too sandy.	Wetness, droughty.
218*:							
Raynham	Slight	Severe: piping, wetness.	Severe: slow refill.	Percs slowly, flooding, frost action.	Wetness, percs slowly, erodes easily.	Wetness, percs slowly, erodes easily.	Wetness, percs slowly, erodes easily.
Wareham	Severe: seepage.	Severe: seepage, wetness.	Severe: cutbanks cave.	Flooding, cutbanks cave.	Wetness, droughty, fast intake.	Wetness, too sandy.	Wetness, droughty.
230E Poocham	Severe: slope, slippage.	Severe: piping.	Severe: no water.	Deep to water	Slope, erodes easily.	Slope, erodes easily, slippage.	Slope, erodes easily.
295 Greenwood	Severe: seepage.	Severe: excess humus, ponding.	Moderate: slow refill.	Ponding, frost action.	Ponding	Ponding	Wetness.

See footnote at end of table.

TABLE 13.--WATER MANAGEMENT--Continued

Soil name and map symbol	Limitations for-- Pond reservoir areas	Limitations for-- Embankments, dikes, and levees	Limitations for-- Aquifer-fed excavated ponds	Features affecting-- Drainage	Features affecting-- Irrigation	Features affecting-- Terraces and diversions	Features affecting-- Grassed waterways
298*. Pits							
299. Udorthents							
330B-------------- Bernardston	Moderate: slope.	Severe: piping.	Severe: no water.	Deep to water	Percs slowly, rooting depth, slope.	Percs slowly---	Rooting depth, percs slowly.
330C, 330D-------- Bernardston	Severe: slope.	Severe: piping.	Severe: no water.	Deep to water	Percs slowly, rooting depth, slope.	Slope, percs slowly.	Slope, percs slowly, rooting depth.
331C, 331D, 331E-- Bernardston	Severe: slope.	Severe: piping.	Severe: no water.	Deep to water	Percs slowly, rooting depth, slope.	Slope, large stones, percs slowly.	Large stones, slope, percs slowly.
334B-------------- Pittstown	Moderate: slope.	Severe: piping.	Severe: no water.	Percs slowly, slope.	Slope, wetness, percs slowly.	Percs slowly, wetness.	Percs slowly, wetness, rooting depth.
334C-------------- Pittstown	Severe: slope.	Severe: piping.	Severe: no water.	Percs slowly, slope.	Slope, wetness, percs slowly.	Slope, percs slowly, wetness.	Slope, percs slowly, rooting depth.
336B-------------- Pittstown	Moderate: slope.	Severe: piping.	Severe: no water.	Percs slowly, slope.	Slope, wetness, percs slowly.	Large stones, percs slowly, wetness.	Large stones, rooting depth, wetness.
336C-------------- Pittstown	Severe: slope.	Severe: piping.	Severe: no water.	Percs slowly, slope.	Slope, wetness, percs slowly.	Slope, large stones, percs slowly.	Large stones, slope, rooting depth.
340B-------------- Stissing	Moderate: slope.	Severe: piping, wetness.	Severe: no water.	Percs slowly, frost action, slope.	Wetness, percs slowly, slope.	Wetness, rooting depth, percs slowly.	Wetness, rooting depth, percs slowly.

See footnote at end of table.

TABLE 13.--WATER MANAGEMENT--Continued

Soil name and map symbol	Limitations for-- Pond reservoir areas	Embankments, dikes, and levees	Aquifer-fed excavated ponds	Features affecting-- Drainage	Irrigation	Terraces and diversions	Grassed waterways
341B: Stissing	Moderate: slope.	Severe: piping, wetness.	Severe: no water.	Percs slowly, frost action, slope.	Wetness, percs slowly, slope.	Large stones, wetness, rooting depth.	Large stones, wetness, rooting depth.
347B*: Lyme	Severe: seepage.	Severe: piping, wetness.	Moderate: slow refill.	Frost action, slope.	Wetness, slope.	Wetness	Wetness.
Moosilauke	Severe: seepage.	Severe: seepage, piping, wetness.	Severe: cutbanks cave.	Frost action, slope, cutbanks cave.	Wetness, slope.	Wetness, too sandy.	Wetness.
360B*: Cardigan	Moderate: seepage, depth to rock, slope.	Severe: piping.	Severe: no water.	Deep to water	Depth to rock, slope, erodes easily.	Depth to rock, erodes easily.	Erodes easily, depth to rock.
Kearsarge	Severe: depth to rock.	Severe: piping.	Severe: no water.	Deep to water	Depth to rock, slope, erodes easily.	Depth to rock, erodes easily.	Erodes easily, depth to rock.
360C*, 360D*: Cardigan	Severe: slope.	Severe: piping.	Severe: no water.	Deep to water	Depth to rock, slope, erodes easily.	Slope, depth to rock, erodes easily.	Slope, erodes easily, depth to rock.
Kearsarge	Severe: depth to rock, slope.	Severe: piping.	Severe: no water.	Deep to water	Depth to rock, slope, erodes easily.	Slope, depth to rock, erodes easily.	Slope, erodes easily, depth to rock.
361C*, 361D*: Cardigan	Severe: slope.	Severe: piping.	Severe: no water.	Deep to water, depth to rock, slope.	Depth to rock, slope.	Slope, depth to rock.	Slope, depth to rock.

See footnote at end of table.

TABLE 13.--WATER MANAGEMENT--Continued

Soil name and map symbol	Limitations for-- Pond reservoir areas	Limitations for-- Embankments, dikes, and levees	Limitations for-- Aquifer-fed excavated ponds	Features affecting-- Drainage	Features affecting-- Irrigation	Features affecting-- Terraces and diversions	Features affecting-- Grassed waterways
361C*, 361D*:							
Kearsarge	Severe: depth to rock, slope.	Severe: piping.	Severe: no water.	Deep to water, depth to rock, slope.	Depth to rock, slope.	Slope, depth to rock.	Slope, depth to rock.
Rock outcrop.							
362E*:							
Kearsarge	Severe: depth to rock, slope.	Severe: piping.	Severe: no water.	Deep to water, depth to rock, slope.	Depth to rock, slope.	Slope, depth to rock.	Slope, depth to rock.
Cardigan	Severe: slope.	Severe: piping.	Severe: no water.	Deep to water, depth to rock, slope.	Depth to rock, slope.	Slope, depth to rock.	Slope, depth to rock.
Rock outcrop.							
365C*, 365D*, 365E*:							
Berkshire	Severe: slope, seepage.	Severe: piping.	Severe: no water.	Deep to water	Large stones, slope.	Slope, large stones.	Slope, large stones.
Monadnock	Severe: seepage, slope.	Severe: seepage.	Severe: no water.	Deep to water, large stones.	Large stones, slope.	Slope, large stones, too sandy.	Large stones, slope.
366B Dutchess	Moderate: seepage, slope.	Severe: seepage, piping.	Severe: no water.	Deep to water	Slope, erodes easily.	Erodes easily	Erodes easily
366C, 366D Dutchess	Severe: slope.	Severe: seepage, piping.	Severe: no water.	Deep to water	Slope, erodes easily.	Slope, erodes easily.	Slope, erodes easily.
367C, 367D, 367E Dutchess	Severe: slope.	Severe: seepage, piping.	Severe: no water.	Deep to water	Slope, large stones.	Slope, large stones, erodes easily.	Large stones, slope, erodes easily.

See footnote at end of table.

TABLE 13.--WATER MANAGEMENT--Continued

Soil name and map symbol	Limitations for--			Features affecting--			
	Pond reservoir areas	Embankments, dikes, and levees	Aquifer-fed excavated ponds	Drainage	Irrigation	Terraces and diversions	Grassed waterways
395 Chocorua	Severe: seepage.	Severe: seepage, ponding, piping.	Severe: cutbanks cave.	Subsides, frost action, cutbanks cave.	Ponding	Ponding	Wetness.
399*. Rock outcrop							
401 Occum	Severe: seepage.	Severe: seepage, piping.	Severe: cutbanks cave.	Deep to water	Flooding	Too sandy	Favorable.
410A Haven	Severe: seepage.	Severe: seepage.	Severe: no water.	Deep to water	Erodes easily	Erodes easily, too sandy.	Erodes easily.
410B Haven	Severe: seepage.	Severe: seepage.	Severe: no water.	Deep to water	Slope, erodes easily.	Erodes easily, too sandy.	Erodes easily.
410C Haven	Severe: seepage, slope.	Severe: seepage.	Severe: no water.	Deep to water	Slope, erodes easily.	Slope, erodes easily, too sandy.	Slope, erodes easily.
414 Moosilauke	Severe: seepage.	Severe: seepage, piping, wetness.	Severe: cutbanks cave.	Frost action, cutbanks cave.	Wetness	Wetness, too sandy.	Wetness.
495 Ossipee	Severe: seepage.	Severe: piping, ponding.	Severe: slow refill.	Ponding, frost action, subsides.	Ponding	Ponding	Wetness.
510B Hoosic	Severe: seepage.	Severe: seepage.	Severe: no water.	Deep to water	Droughty, slope.	Too sandy	Droughty.
510C, 510E Hoosic	Severe: seepage, slope.	Severe: seepage.	Severe: no water.	Deep to water	Droughty, slope.	Slope, too sandy.	Slope, droughty.

See footnote at end of table.

TABLE 13.--WATER MANAGEMENT--Continued

Soil name and map symbol	Limitations for-- Pond reservoir areas	Embankments, dikes, and levees	Aquifer-fed excavated ponds	Features affecting-- Drainage	Irrigation	Terraces and diversions	Grassed waterways
513A Ninigret	Severe: seepage.	Severe: seepage, wetness.	Severe: cutbanks cave.	Frost action, cutbanks cave.	Wetness	Erodes easily, wetness.	Erodes easily.
513B Ninigret	Severe: seepage.	Severe: seepage, wetness.	Severe: cutbanks cave.	Frost action, slope, cutbanks cave.	Slope, wetness.	Erodes easily, wetness.	Erodes easily.
526A Caesar	Severe: seepage.	Severe: seepage.	Severe: no water.	Deep to water	Droughty, fast intake.	Too sandy	Droughty.
526B Caesar	Severe: seepage.	Severe: seepage.	Severe: no water.	Deep to water	Slope, droughty, fast intake.	Too sandy	Droughty.
526C, 526E Caesar	Severe: seepage, slope.	Severe: seepage.	Severe: no water.	Deep to water	Slope, droughty, fast intake.	Slope, too sandy.	Slope, droughty.
531A Scio	Moderate: seepage.	Severe: piping, wetness.	Severe: cutbanks cave.	Cutbanks cave, frost action.	Erodes easily, wetness.	Erodes easily, wetness.	Erodes easily.
531B Scio	Moderate: seepage, slope.	Severe: piping, wetness.	Severe: cutbanks cave.	Slope, cutbanks cave, frost action.	Slope, erodes easily, wetness.	Erodes easily, wetness.	Erodes easily.
533 Raynham	Slight	Severe: piping, wetness.	Severe: slow refill.	Percs slowly, frost action.	Wetness, percs slowly, erodes easily.	Wetness, percs slowly, erodes easily.	Wetness, percs slowly, erodes easily.
558B Skerry	Moderate: seepage, slope.	Moderate: seepage.	Severe: no water.	Percs slowly, frost action, slope.	Wetness, rooting depth, slope.	Wetness, percs slowly.	Rooting depth, percs slowly.
559B Skerry	Moderate: seepage, slope.	Moderate: seepage.	Severe: no water.	Percs slowly, frost action, slope.	Wetness, rooting depth, slope.	Large stones, wetness, percs slowly.	Large stones, rooting depth, percs slowly.

See footnote at end of table.

TABLE 13.--WATER MANAGEMENT--Continued

Soil name and map symbol	Limitations for-- Pond reservoir areas	Embankments, dikes, and levees	Aquifer-fed excavated ponds	Features affecting-- Drainage	Irrigation	Terraces and diversions	Grassed waterways
559C-------------- Skerry	Severe: slope.	Moderate: seepage.	Severe: no water.	Percs slowly, frost action, slope.	Wetness, rooting depth, slope.	Slope, large stones, wetness.	Large stones, slope, rooting depth.
613B-------------- Croghan	Severe: seepage.	Severe: seepage, piping, wetness.	Severe: cutbanks cave.	Slope, cutbanks cave.	Wetness, droughty, fast intake.	Wetness, too sandy.	Droughty.
646B-------------- Pillsbury	Moderate: slope.	Severe: piping, wetness.	Severe: no water.	Percs slowly, frost action, slope.	Wetness, percs slowly, slope.	Wetness, percs slowly.	Wetness, rooting depth.
647B-------------- Pillsbury	Moderate: slope.	Severe: piping, wetness.	Severe: no water.	Percs slowly, slope.	Wetness, percs slowly, slope.	Wetness, percs slowly.	Wetness, rooting depth.
771C*, 771D*:							
Berkshire--------	Severe: slope, seepage.	Severe: piping.	Severe: no water.	Deep to water	Slope----------	Slope, large stones.	Slope, large stones.
Monadnock--------	Severe: seepage, slope.	Severe: seepage, large stones.	Severe: no water.	Deep to water, large stones.	Large stones, slope.	Slope, large stones, too sandy.	Large stones, slope.

* See description of the map unit for composition and behavior characteristics of the map unit.

TABLE 14.--ENGINEERING INDEX PROPERTIES

(The symbol < means less than; > means more than. Absence of an entry indicates that data were not estimated)

Soil name and map symbol	Depth	USDA texture	Classification		Fragments > 3 inches	Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO		4	10	40	200		
	In				Pct					Pct	
2----------------- Suncook	0-8	Loamy fine sand	SM	A-2	0	95-100	85-100	45-85	15-35	---	NP
	8-26	Stratified loamy fine sand to coarse sand.	SP, SM	A-1, A-2, A-3	0	90-100	70-100	20-85	0-35	---	NP
	26-60	Stratified loamy fine sand to gravelly coarse sand.	SP, SM	A-1, A-2, A-3	0	60-100	45-100	20-85	0-35	---	NP
4----------------- Pootatuck	0-9	Fine sandy loam	SM, ML	A-2, A-4	0	95-100	80-100	55-95	30-75	<25	NP-4
	9-28	Fine sandy loam, sandy loam.	SM	A-2, A-4	0	95-100	80-100	55-85	30-50	<20	NP-2
	28-60	Stratified loamy fine sand to very gravelly coarse sand.	SP, SP-SM, SM	A-1, A-2, A-3	0-15	70-100	45-100	25-75	0-25	---	NP
5----------------- Rippowam	0-9	Fine sandy loam	SM, ML	A-2, A-4	0	95-100	80-100	55-95	30-75	<25	NP-4
	9-30	Fine sandy loam, sandy loam.	SM	A-2, A-4	0	95-100	80-100	55-85	30-50	<20	NP-2
	30-60	Stratified loamy fine sand to very gravelly coarse sand.	SP, SP-SM, SM	A-1, A-2, A-3	0	70-100	45-100	25-75	0-25	---	NP
6----------------- Saco	0-5	Mucky silt loam	OL, ML	A-4, A-7	0	100	100	95-100	70-95	<50	5-20
	5-12	Silt loam, very fine sandy loam.	ML	A-4	0	100	100	95-100	70-95	<40	NP-10
	12-60	Silt loam, very fine sandy loam.	ML	A-4	0	100	100	90-100	70-95	<40	NP-10
9----------------- Winooski	0-4	Silt loam--------	ML, SM	A-4	0	100	95-100	90-100	40-90	<30	NP
	4-60	Silt loam, very fine sandy loam, loamy very fine sand.	ML, SM	A-4	0	100	95-100	90-100	40-90	<30	NP
10B, 10C--------- Merrimac	0-19	Fine sandy loam	SM, ML	A-2, A-4	0	85-95	70-90	40-85	20-55	<20	NP
	19-23	Sandy loam-------	SM	A-2	0	75-95	70-90	40-60	20-35	<25	NP
	23-28	Gravelly loamy sand, sandy loam, gravelly sandy loam.	SP, SM, SP-SM	A-1, A-2, A-3	0	65-95	55-90	30-60	0-35	<25	NP
	28-60	Stratified sand to very gravelly coarse sand.	GP, SP, SP-SM, GP-GM	A-1	5-25	40-65	30-60	15-40	0-10	---	NP

TABLE 14.--ENGINEERING INDEX PROPERTIES--Continued

Soil name and map symbol	Depth	USDA texture	Classification		Frag- ments > 3 inches	Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO		4	10	40	200		
	In				Pct					Pct	
14B--------------- Sheepscot	0-5	Sandy loam	GM, SM	A-1, A-2,	0-5	55-95	50-90	25-85	15-60	<15	NP-5
	5-13	Gravelly fine sandy loam, gravelly loamy sand, very gravelly coarse sand.	GP, GM, SP, SM	A-1, A-2	0-5	50-70	30-55	15-45	2-30	<15	NP-5
	13-32	Very gravelly sand, gravelly loamy sand, extremely gravelly coarse sand.	GP, GM, SP, SM	A-1	0-5	50-70	30-55	15-40	2-15	---	NP
	32-60	Extremely gravelly coarse sand, gravelly sand, very gravelly sand.	GP, GM, SP, SM	A-1	0-10	45-70	25-55	12-40	1-15	---	NP
15--------------- Searsport	0-12	Mucky peat-------	PT	A-8	0	---	---	---	---	---	---
	12-34	Loamy fine sand, fine sandy loam, sand.	SM, SP-SM	A-1, A-2, A-3	0	95-100	75-100	40-100	5-35	---	NP
	34-60	Sand, coarse sand, fine sand.	SM, SP	A-1, A-2, A-3	0	95-100	75-100	40-100	0-35	---	NP
22A, 22B, 22C, 22E------------- Colton	0-2	Loamy fine sand--	SM, SW-SM, SP-SM	A-1, A-2, A-3, A-4	0-5	80-90	75-85	40-70	5-45	---	NP
	2-18	Loamy fine sand, gravelly loamy fine sand, very cobbly loamy sand.	SM, GM, SP, GP	A-1	5-20	30-80	25-75	20-50	2-20	---	NP
	18-60	Very gravelly sand, very cobbly sand.	GP, SP, GW, SW	A-1	10-45	20-55	15-50	10-30	0-5	---	NP
24A, 24B, 24C---- Agawam	0-12	Very fine sandy loam.	SM, ML	A-4	0	95-100	85-100	65-85	35-55	<25	NP-3
	12-20	Fine sandy loam, very fine sandy loam, loam.	SM, ML	A-2, A-4	0	80-100	60-100	50-85	30-55	<25	NP-3
	20-25	Fine sandy loam	SM, ML	A-2, A-4	0	80-100	60-100	50-85	30-55	<20	NP-3
	25-52	Stratified loamy fine sand to gravelly sand.	SM, SP-SM, GM, GP-GM	A-1, A-2, A-3	0-5	60-100	50-100	35-80	5-35	---	NP
	52-60	Stratified fine sand to gravelly coarse sand.	SM, SP-SM, GM, GP-GM	A-1, A-2, A-3	0-5	50-100	30-100	15-80	5-35	---	NP
26A, 26B, 26C, 26E------------- Windsor	0-4	Loamy fine sand	SM	A-1, A-2	0	95-100	80-100	45-90	20-35	---	NP
	4-26	Loamy sand, loamy fine sand, sand.	SM	A-1, A-2	0	95-100	80-100	45-90	15-30	---	NP
	26-60	Sand, fine sand, loamy sand.	SM, SP, SP-SM	A-1, A-2, A-3	0	90-100	75-100	40-90	2-30	---	NP

TABLE 14.--ENGINEERING INDEX PROPERTIES--Continued

Soil name and map symbol	Depth	USDA texture	Classification		Fragments > 3 inches	Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO		4	10	40	200		
	In				Pct					Pct	
30A, 30B, 30C---- Unadilla	0-8	Very fine sandy loam.	ML	A-4	0	100	95-100	90-100	70-90	<35	NP-10
	8-35	Silt loam, very fine sandy loam.	ML, CL-ML	A-4	0	100	95-100	90-100	70-90	<25	NP-10
	35-60	Fine sand, loamy very fine sand.	SM, SP	A-3	0	100	95-100	45-95	25-55	<20	NP-2
36A, 36B, 36C, 36E------------- Adams	0-6	Loamy sand-------	SM, SP-SM	A-1, A-2, A-3, A-4	0	95-100	95-100	45-85	5-40	---	NP
	6-19	Loamy sand, sand, loamy fine sand.	SM, SP-SM	A-1, A-2, A-3, A-4	0	95-100	95-100	35-95	5-40	---	NP
	19-60	Clay, coarse sand, gravelly sand.	SP-SM, SW-SM, SP	A-1, A-2, A-3	0-1	80-100	70-100	20-90	0-10	---	NP
56B, 56C--------- Becket	0-8	Fine sandy loam	SM	A-2, A-4	0-10	85-95	75-90	60-85	20-50	<18	NP
	8-31	Fine sandy loam, sandy loam, gravelly sandy loam.	SM	A-2, A-4	5-15	75-95	60-95	50-75	20-45	<12	NP
	31-60	Sandy loam, gravelly loamy sand, gravelly sandy loam.	SM, SP-SM, GM, GP-GM	A-1, A-2	5-25	60-85	45-75	30-70	10-35	---	NP
57B, 57C, 57D---- Becket	0-2	Very stony fine sandy loam.	SM, SC, SM-SC	A-2, A-4, A-1-b	5-25	70-95	60-90	30-85	20-50	<30	NP-10
	2-31	Fine sandy loam, sandy loam, gravelly sandy loam.	SM, SC, SM-SC	A-2, A-4	5-15	75-95	60-95	50-75	25-45	<25	NP-10
	31-60	Sandy loam, loam, gravelly sandy loam, gravelly loamy sand.	SM, SP-SM, GM, GP-GM	A-1, A-2	5-25	60-85	45-75	30-70	10-35	---	NP
60B*, 60C*, 60D*: Tunbridge--------	0-4	Very stony fine sandy loam.	SM, ML	A-4, A-2	5-20	65-100	60-95	40-95	25-85	<20	NP-2
	4-26	Fine sandy loam, gravelly fine sandy loam, channery fine sandy loam.	SM, ML	A-5, A-2	0-15	70-100	65-95	45-95	25-85	<50	NP-6
	26	Unweathered bedrock.	---	---	---	---	---	---	---	---	---
Berkshire--------	0-3	Very stony fine sandy loam.	SM, ML	A-2, A-4, A-5	15-25	80-95	70-90	45-85	25-65	<50	NP-10
	3-35	Fine sandy loam, sandy loam, gravelly fine sandy loam.	SM, ML	A-2, A-4, A-5	0-15	75-95	65-85	40-75	20-60	<50	NP-10
	35-60	Fine sandy loam, sandy loam, gravelly sandy loam.	SM, ML	A-2, A-4	0-15	75-90	65-85	40-80	20-55	<20	NP-6

See footnote at end of table.

TABLE 14.--ENGINEERING INDEX PROPERTIES--Continued

Soil name and map symbol	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments > 3 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct					Pct	
61B*, 61C*, 61D*:											
Tunbridge-------	0-4	Very stony fine sandy loam.	SM, ML	A-4, A-2	5-20	65-100	60-95	40-95	25-85	<20	NP-2
	4-26	Fine sandy loam, gravelly fine sandy loam, channery fine sandy loam.	SM, ML	A-5, A-2	0-15	70-100	65-95	45-95	25-85	<50	NP-6
	26	Unweathered bedrock.	---	---	---	---	---	---	---	---	---
Lyman-----------	0-4	Very stony fine sandy loam.	SM, ML, GM	A-1, A-2, A-4	5-20	65-95	60-90	35-80	15-75	<30	NP-6
	4-16	Fine sandy loam, gravelly fine sandy loam.	SM, ML, GM	A-1, A-2, A-4	0-20	65-95	60-90	35-85	20-80	<30	NP-4
	16	Unweathered bedrock.	---	---	---	---	---	---	---	---	---
Rock outcrop.											
72B, 72C, 72D---- Berkshire	0-8	Fine sandy loam	SM, ML	A-2, A-4	0-15	80-95	70-90	45-90	20-70	<30	NP-10
	8-35	Fine sandy loam, sandy loam, gravelly fine sandy loam.	SM, ML	A-2, A-4	0-20	75-95	65-85	40-85	20-65	<30	NP-10
	35-60	Fine sandy loam, sandy loam, gravelly sandy loam.	SM, ML	A-2, A-4	0-20	75-90	65-85	40-80	20-60	<20	NP-6
73B, 73C, 73D---- Berkshire	0-3	Very stony fine sandy loam.	SM, ML	A-2, A-4, A-5	15-25	80-95	70-90	45-85	25-65	<50	NP-10
	3-35	Fine sandy loam, sandy loam, gravelly fine sandy loam.	SM, ML	A-2, A-4, A-5	0-15	75-95	65-85	40-75	20-60	<50	NP-10
	35-60	Fine sandy loam, sandy loam, gravelly sandy loam.	SM, ML	A-2, A-4	0-15	75-90	65-85	40-80	20-55	<20	NP-6
76B, 76C, 76D---- Marlow	0-8	Fine sandy loam	SM, ML, CL-ML	A-2, A-4	0-10	90-100	75-90	50-90	30-80	<30	NP-10
	8-25	Fine sandy loam, loam, gravelly sandy loam.	SM, ML, SM-SC, CL-ML	A-2, A-4, A-1-b	0-15	75-95	60-90	40-85	20-65	<30	NP-10
	25-60	Fine sandy loam, gravelly loam, gravelly fine sandy loam.	SM, ML, SM-SC, CL-ML	A-2, A-4, A-1-b	0-15	70-90	60-85	35-80	20-60	<30	NP-10
77B, 77C, 77D, 77E------------ Marlow	0-4	Very stony fine sandy loam.	SM, ML, CL-ML	A-2, A-4	5-15	90-100	75-90	50-90	30-80	<30	NP-10
	4-25	Fine sandy loam, loam, gravelly sandy loam.	SM, ML, SM-SC, CL-ML	A-2, A-4, A-1-b	0-15	75-95	60-90	40-85	20-65	<30	NP-10
	25-60	Fine sandy loam, gravelly loam, gravelly fine sandy loam.	SM, ML, SM-SC, CL-ML	A-2, A-4, A-1-b	0-15	70-90	60-85	35-80	20-60	<30	NP-10

See footnote at end of table.

TABLE 14.--ENGINEERING INDEX PROPERTIES--Continued

Soil name and map symbol	Depth	USDA texture	Classification		Frag- ments > 3 inches	Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO		4	10	40	200		
	In				Pct					Pct	
78B, 78C---------Peru	0-9	Fine sandy loam	SM, ML, CL-ML	A-2, A-4	0-10	90-100	75-90	50-90	30-80	<30	NP-10
	9-25	Fine sandy loam, loam, gravelly sandy loam.	SM, ML, SM-SC, CL-ML	A-2, A-4, A-1-b	0-15	75-95	60-90	40-85	20-65	<30	NP-10
	25-60	Fine sandy loam, loam, gravelly fine sandy loam.	SM, ML, SM-SC, CL-ML	A-2, A-4, A-1-b	0-15	70-95	55-95	35-80	20-60	<30	NP-10
79B, 79C, 79D----Peru	0-4	Very stony fine sandy loam.	SM, ML, CL-ML, SC	A-2, A-4	5-15	90-100	75-90	50-90	30-80	<30	NP-10
	4-25	Fine sandy loam, loam, gravelly sandy loam.	SM, ML, SM-SC, CL-ML	A-2, A-4, A-1-b	0-15	75-95	60-90	40-85	20-65	<30	NP-10
	25-60	Fine sandy loam, loam, gravelly fine sandy loam.	SM, ML, SM-SC, CL-ML	A-2, A-4, A-1-b	0-15	70-95	55-95	35-80	20-60	<30	NP-10
107*: Rippowam---------	0-9	Fine sandy loam	SM, ML	A-2, A-4	0	95-100	80-100	55-95	30-75	<25	NP-4
	9-30	Fine sandy loam, sandy loam.	SM	A-2, A-4	0	95-100	80-100	55-85	30-50	<20	NP-2
	30-60	Stratified loamy fine sand to very gravelly coarse sand.	SP, SP-SM, SM	A-1, A-2, A-3	0	70-100	45-100	25-75	0-25	---	NP
Saco-------------	0-5	Mucky silt loam	OL, ML	A-4, A-7	0	100	100	95-100	70-95	<50	5-20
	5-12	Silt loam, very fine sandy loam.	ML	A-4	0	100	100	95-100	70-95	<40	NP-10
	12-60	Silt loam, very fine sandy loam.	ML	A-4	0	100	100	90-100	70-95	<40	NP-10
108--------------Hadley	0-11	Silt loam--------	ML, CL-ML	A-4	0	100	95-100	85-100	60-90	<30	NP-7
	11-42	Silt loam, very fine sandy loam, very fine sand.	ML, CL-ML	A-4	0	100	95-100	80-100	50-90	<39	NP-10
	42-60	Loamy fine sand, silt loam, sand.	ML, CL-ML, SM, SP-SM	A-4, A-2	0	100	95-100	50-100	5-90	<30	NP-10
109--------------Limerick	0-3	Silt loam--------	ML	A-4	0	100	100	95-100	80-95	---	NP
	3-47	Silt loam, very fine sandy loam.	ML	A-4	0	100	100	95-100	80-95	---	NP
	47-60	Silt loam, very fine sandy loam.	ML	A-4	0	100	100	95-100	80-95	---	NP
142B, 142C-------Monadnock	0-5	Fine sandy loam	SM, ML	A-2, A-4	0-5	90-100	85-100	55-85	30-60	<18	NP
	5-23	Fine sandy loam, loam, gravelly fine sandy loam.	SM, ML	A-2, A-4	0-10	80-100	70-100	50-85	30-60	<12	NP
	23-60	Loamy sand, gravelly loamy sand, very gravelly loamy sand.	SM, SP-SM, SW-SM	A-1, A-2	0-35	65-100	50-100	20-60	10-30	---	NP

See footnote at end of table.

TABLE 14.--ENGINEERING INDEX PROPERTIES--Continued

Soil name and map symbol	Depth	USDA texture	Classification		Frag- ments > 3 inches	Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO		4	10	40	200		
	In				Pct					Pct	
143B, 143C, 143D- Monadnock	0-5	Very stony fine sandy loam.	SM, ML	A-2, A-4	5-15	80-100	70-90	50-85	30-60	<18	NP
	5-23	Fine sandy loam, loam, gravelly fine sandy loam.	SM, ML	A-2, A-4	0-10	80-95	70-90	50-85	30-60	<12	NP
	23-60	Loamy sand, gravelly loamy sand, very gravelly loamy sand.	SM, SP-SM, SW-SM	A-1, A-2	0-35	65-85	50-80	20-60	10-30	---	NP
161E*:											
Lyman-----------	0-4	Very stony fine sandy loam.	SM, ML, GM	A-1, A-2, A-4	5-20	65-95	60-90	35-80	15-75	<30	NP-6
	4-16	Fine sandy loam, gravelly fine sandy loam.	SM, ML, GM	A-1, A-2, A-4	0-20	65-95	60-90	35-85	20-80	<30	NP-4
	16	Unweathered bedrock.	---	---	---	---	---	---	---	---	---
Tunbridge-------	0-4	Very stony fine sandy loam.	SM, ML	A-4, A-2	5-20	65-100	60-95	40-95	25-85	<20	NP-2
	4-26	Fine sandy loam, gravelly fine sandy loam, channery fine sandy loam.	SM, ML	A-5, A-2	0-15	70-100	65-95	45-95	25-85	<50	NP-6
	26	Unweathered bedrock.	---	---	---	---	---	---	---	---	---
Rock outcrop.											
168B------------- Sunapee	0-8	Fine sandy loam	ML, CL-ML	A-4, A-6	0-5	90-100	85-95	85-95	70-85	20-40	2-12
	8-25	Fine sandy loam, sandy loam, gravelly fine sandy loam.	SM, ML	A-2, A-4	0-10	80-95	70-90	50-80	25-60	<25	NP-3
	25-60	Sandy loam, gravelly sandy loam, gravelly loamy sand.	SM, ML	A-2, A-4	0-10	80-95	70-90	50-80	25-60	---	NP
169B, 169C------- Sunapee	0-3	Very stony fine sandy loam.	SM, ML	A-2, A-4	5-15	80-100	70-95	50-95	25-85	<25	NP-3
	3-25	Sandy loam, gravelly fine sandy loam.	SM, ML	A-2, A-4	0-10	80-95	70-90	50-80	25-60	<25	NP-3
	25-60	Fine sandy loam, gravelly sandy loam, gravelly loamy sand.	SM, ML	A-2, A-4	0-10	80-95	70-90	50-80	25-60	---	NP
197. Borohemists											

See footnote at end of table.

TABLE 14.--ENGINEERING INDEX PROPERTIES--Continued

Soil name and map symbol	Depth	USDA texture	Classification		Fragments > 3 inches	Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO		4	10	40	200		
	In				Pct					Pct	
214-------------- Naumburg	0-3	Loamy fine sand	SM, SW-SM, SP-SM	A-2, A-4, A-3	0	95-100	95-100	50-85	5-45	---	NP
	3-24	Loamy fine sand, loamy sand, sand.	SM, SW-SM, SP-SM	A-1, A-2, A-3	0	90-100	90-100	45-85	5-35	---	NP
	24-60	Sand, loamy sand, fine sand.	SM, SW-SM, SP-SM	A-1, A-2, A-3	0	90-100	90-100	45-80	5-35	---	NP
218*:											
Raynham---------	0-11	Silt loam--------	ML	A-4	0	100	95-100	80-100	55-95	<25	NP-10
	11-25	Silt loam, silt, very fine sandy loam.	ML	A-4	0	100	95-100	80-100	55-95	<25	NP-10
	25-60	Silt loam, silt, very fine sandy loam.	ML	A-4	0	100	95-100	90-100	70-95	<25	NP-10
Wareham---------	0-9	Loamy fine sand	SM, SP-SM	A-1, A-2	0	85-100	75-100	40-85	10-35	---	NP
	9-18	Loamy coarse sand, loamy fine sand, sand.	SM, SP-SM	A-1, A-2, A-3	0	85-100	75-100	35-85	5-35	---	NP
	18-60	Loamy coarse sand, loamy sand, sand.	SM, SP-SM, SP	A-1, A-2, A-3	0	85-100	75-100	25-75	0-30	---	NP
230E------------- Poocham	0-2	Very fine sandy loam.	ML	A-4	0	95-100	95-100	85-100	65-90	<35	NP-10
	2-13	Silt loam, very fine sandy loam.	ML	A-4	0	95-100	95-100	85-100	65-90	<35	NP-10
	13-60	Silt, silt loam, very fine sandy loam.	ML	A-4	0	95-100	95-100	85-100	65-100	<35	NP-10
295-------------- Greenwood	0-60	Hemic material---	PT	A-8	0	---	---	---	---	---	---
298*. Pits											
299. Udorthents											
330B, 330C, 330D- Bernardston	0-2	Silt loam--------	ML, CL-ML	A-4, A-6, A-7	0-5	80-100	70-95	65-95	50-85	24-45	4-14
	2-25	Channery silt loam, silt loam, loam.	ML, CL-ML, SM, SM-SC	A-2, A-4	0-10	65-95	50-90	45-90	30-80	22-35	2-10
	25-60	Channery silt loam, loam, channery very fine sandy loam.	ML, CL-ML, SM, SM-SC	A-2, A-4	0-10	65-90	50-85	45-85	30-75	20-32	2-8
331C, 331D, 331E- Bernardston	0-2	Very stony silt loam.	ML, CL-ML, SM, SM-SC	A-2, A-4, A-6, A-7	10-20	60-90	45-85	40-85	30-75	24-45	4-14
	2-25	Channery silt loam, silt loam, loam.	ML, CL-ML, SM, SM-SC	A-2, A-4	0-10	65-95	50-90	45-90	30-80	22-35	2-10
	25-60	Channery silt loam, loam, channery very fine sandy loam.	ML, CL-ML, SM, SM-SC	A-2, A-4	0-10	65-90	50-85	45-85	30-75	20-32	2-8

See footnote at end of table.

TABLE 14.--ENGINEERING INDEX PROPERTIES--Continued

Soil name and map symbol	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Frag- ments > 3 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas- ticity index
	In				Pct					Pct	
334B, 334C------- Pittstown	0-9	Silt loam--------	ML, CL-ML	A-4, A-6, A-7	0-5	80-100	70-95	65-95	50-85	25-45	4-15
	9-21	Silt loam, channery silt loam, very fine sandy loam.	ML, SM, CL-ML, SM-SC	A-2, A-4	0-15	65-95	60-90	50-90	30-80	20-35	2-10
	21-60	Channery silt loam, channery loam, very fine sandy loam.	ML, SM, CL-ML, SM-SC	A-2, A-4	0-15	60-95	55-85	45-85	30-75	20-30	2-10
336B, 336C------- Pittstown	0-4	Very stony silt loam.	ML, SM, CL-ML, SM-SC	A-2, A-4, A-6, A-7	10-20	65-90	60-85	50-85	30-75	25-45	4-15
	4-21	Silt loam, very fine sandy loam, channery silt loam.	ML, SM, CL-ML, SM-SC	A-2, A-4	0-15	65-95	60-90	50-90	30-80	20-35	2-10
	21-60	Channery silt loam, channery very fine sandy loam, loam.	ML, SM, CL-ML, SM-SC	A-2, A-4	0-15	60-95	55-85	45-85	30-75	20-30	2-10
340B------------ Stissing	0-8	Silt loam--------	ML, CL-ML, SM, SM-SC	A-4, A-6, A-7, A-5	0-5	80-100	70-90	60-85	40-80	24-45	4-14
	8-20	Loam, silt loam, channery loam.	SM, ML, SM-SC, CL-ML	A-4	0-15	70-100	60-90	50-85	35-80	22-34	2-10
	20-60	Channery silt loam, silt loam, gravelly silt loam.	GM-GC, CL-ML, GM, ML	A-4	0-15	65-80	55-75	45-70	35-65	20-32	2-8
341B------------ Stissing	0-4	Very stony silt loam.	SM, SM-SC, ML, CL-ML	A-4, A-6, A-7, A-5	10-20	70-95	60-90	50-85	35-80	24-45	4-14
	4-20	Loam, silt loam, channery loam.	SM, ML, SM-SC, CL-ML	A-4	0-15	70-100	60-90	50-85	35-80	22-34	2-10
	20-60	Channery silt loam, silt loam, gravelly silt loam.	GM-GC, CL-ML, GM, ML	A-4	0-15	65-80	55-75	45-70	35-65	20-32	2-8
347B*:											
Lyme------------	0-6	Very stony fine sandy loam.	SM, ML	A-2, A-4	5-15	80-100	70-95	40-95	25-85	<25	NP-3
	6-25	Fine sandy loam, sandy loam, gravelly sandy loam.	SM, ML	A-2, A-4	0-15	80-95	70-90	40-80	25-60	<25	NP-3
	25-60	Fine sandy loam, sandy loam, gravelly sandy loam.	SM, ML	A-2, A-4	0-15	80-95	65-90	40-80	25-60	<25	NP-3

See footnote at end of table.

TABLE 14.--ENGINEERING INDEX PROPERTIES--Continued

Soil name and map symbol	Depth	USDA texture	Classification		Frag- ments > 3 inches	Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO		4	10	40	200		
	In				Pct					Pct	
347B*:											
Moosilauke------	0-7	Very stony fine sandy loam.	SM	A-2, A-4	5-15	90-100	75-100	70-100	30-50	<25	NP-3
	7-20	Loamy sand, sandy loam, gravelly sandy loam.	SM	A-2, A-4	0-5	85-100	75-95	40-95	25-50	---	NP
	20-60	Loamy sand, sand, very gravelly sand, gravelly loamy fine sand.	SP-SM, SP, SM	A-1, A-2, A-3	0-15	55-100	50-95	25-90	0-25	---	NP
360B*, 360C*, 360D*:											
Cardigan-------	0-7	Silt loam--------	ML, SM	A-4	0-5	90-100	85-95	65-85	45-80	<33	NP-5
	7-22	Silt loam, very fine sandy loam, channery silt loam.	ML, SM	A-4	0-10	80-95	70-95	60-75	35-70	<33	NP-5
	22-31	Silt loam, channery very fine sandy loam, channery silt loam.	SM, ML	A-1, A-2, A-4	0-10	80-95	60-90	40-75	20-70	<33	NP-5
	31	Unweathered bedrock.	---	---	---	---	---	---	---	---	---
Kearsarge------	0-9	Silt loam--------	ML, SM	A-4	0-5	90-100	85-95	65-85	45-80	<33	NP-5
	9-17	Silt loam, loam, channery silt loam.	ML, SM	A-4	0-10	80-95	70-95	60-75	35-70	<33	NP-5
	17	Unweathered bedrock.	---	---	---	---	---	---	---	---	---
361C*, 361D*:											
Cardigan---------	0-4	Very stony silt loam.	ML, SM	A-4	5-15	80-100	70-95	60-85	35-80	<33	NP-5
	4-22	Silt loam, very fine sandy loam, channery silt loam.	ML, SM	A-4	0-10	80-95	70-95	60-75	35-70	<33	NP-5
	22-31	Silt loam, channery very fine sandy loam, channery silt loam.	SM, ML	A-1, A-2, A-4	0-10	80-95	60-90	40-75	20-70	<33	NP-5
	31	Unweathered bedrock.	---	---	---	---	---	---	---	---	---
Kearsarge-------	0-4	Very stony silt loam.	ML, SM	A-4	5-15	80-100	70-95	60-85	45-80	<33	NP-5
	4-17	Silt loam, loam, channery silt loam.	ML, SM	A-4	0-10	80-95	70-95	60-75	35-70	<30	NP-5
	17	Unweathered bedrock.	---	---	---	---	---	---	---	---	---
Rock outcrop.											

See footnote at end of table.

TABLE 14.--ENGINEERING INDEX PROPERTIES--Continued

Soil name and map symbol	Depth	USDA texture	Classification Unified	Classification AASHTO	Frag- ments > 3 inches	Percentage passing sieve number-- 4	10	40	200	Liquid limit	Plas- ticity index
	In				Pct					Pct	
362E*:											
Kearsarge	0-4	Very stony silt loam.	ML, SM	A-4	5-15	80-100	70-95	60-85	45-80	<33	NP-5
	4-17	Silt loam, loam, channery silt loam.	ML, SM	A-4	0-10	80-95	70-95	60-75	35-70	<30	NP-5
	17	Unweathered bedrock.	---	---	---	---	---	---	---	---	---
Cardigan	0-4	Very stony silt loam.	ML, SM	A-4	5-15	80-100	70-95	60-85	35-80	<33	NP-5
	4-22	Silt loam, very fine sandy loam, channery silt loam.	ML, SM	A-4	0-10	80-95	70-95	60-75	35-70	<33	NP-5
	22-31	Silt loam, channery very fine sandy loam, channery silt loam.	SM, ML	A-1, A-2, A-4	0-10	80-95	60-90	40-75	20-70	<33	NP-5
	31	Unweathered bedrock.	---	---	---	---	---	---	---	---	---
Rock outcrop.											
365C*, 365D*, 365E*:											
Berkshire	0-3	Extremely stony fine sandy loam.	SM, ML	A-2, A-4, A-5	20-45	80-95	70-90	45-85	25-65	<50	NP-10
	3-35	Fine sandy loam, sandy loam, gravelly fine sandy loam.	SM, ML	A-2, A-4, A-5	0-15	75-95	65-85	40-75	20-60	<50	NP-10
	35-60	Fine sandy loam, sandy loam, gravelly sandy loam.	SM, ML	A-2, A-4	0-15	75-90	65-85	40-80	20-55	<20	NP-6
Monadnock	0-5	Extremely stony fine sandy loam.	SM, ML	A-2, A-4	10-35	80-95	70-90	40-85	25-60	<15	NP
	5-23	Fine sandy loam, loam, gravelly fine sandy loam.	SM, ML	A-2, A-4	0-10	80-95	70-90	50-85	30-60	<12	NP
	23-60	Loamy sand, gravelly loamy sand, very gravelly loamy sand.	SM, SP-SM, SW-SM	A-1, A-2	0-35	65-85	50-80	20-60	10-30	---	NP
366B, 366C, 366D-- Dutchess	0-8	Silt loam	ML	A-4	0-15	95-100	90-95	80-95	55-85	<33	NP-4
	8-21	Silt loam, channery silt loam, gravelly loam.	ML, SM, GM	A-4	5-30	70-100	65-95	55-95	40-85	<33	NP-4
	21-60	Channery silt loam, channery very fine sandy loam, very gravelly fine sandy loam.	ML, SM, GM	A-4, A-2-4, A-1-b	5-30	55-80	50-75	30-75	15-65	<25	NP-4

See footnote at end of table.

TABLE 14.--ENGINEERING INDEX PROPERTIES--Continued

Soil name and map symbol	Depth	USDA texture	Classification		Frag- ments > 3 inches	Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO		4	10	40	200		
	In				Pct					Pct	
367C, 367D, 367E-Dutchess	0-3	Very stony silt loam.	ML, SM	A-4	1-20	85-100	60-95	50-95	40-85	<33	NP-4
	3-21	Silt loam, channery silt loam, gravelly loam.	ML, SM, GM	A-4	5-30	70-100	65-95	55-95	40-85	<33	NP-4
	21-60	Channery silt loam, channery very fine sandy loam, very gravelly fine sandy loam.	ML, SM, GM	A-4, A-2-4, A-1-b	5-30	55-80	50-75	30-75	15-65	<25	NP-4
395-------------- Chocorua	0-14	Hemic material---	PT	A-8	5-15	---	---	---	---	---	---
	14-34	Hemic material---	PT	A-8	5-15	---	---	---	---	---	---
	34-60	Stratified gravelly sand to loamy fine sand.	SP, SM	A-1, A-2, A-3	0	75-100	60-100	30-80	0-30	---	NP
399*. Rock outcrop											
401-------------- Occum	0-8	Fine sandy loam	SM	A-2, A-4	0	95-100	75-100	45-80	25-50	<25	NP-4
	8-29	Sandy loam, fine sandy loam, loam.	SM, ML	A-2, A-4	0	95-100	75-100	45-85	25-70	<25	NP-4
	29-60	Stratified loamy fine sand to very gravelly coarse sand.	SM, SP-SM, SP	A-1, A-2, A-3	0-10	65-100	30-100	15-75	0-25	---	NP
410A, 410B, 410C-Haven	0-19	Very fine sandy loam.	ML, SM	A-4	0	80-100	75-100	65-100	40-90	<25	NP-4
	19-22	Gravelly loam, gravelly fine sandy loam, gravelly sandy loam.	ML, SM	A-4, A-2, A-1	0	60-100	55-95	40-95	20-85	<25	NP-4
	22-60	Stratified loamy fine sand to gravel.	SP, SW, GP, SM	A-1, A-3, A-2	0-20	30-90	25-85	10-60	1-25	<10	NP
414-------------- Moosilauke	0-7	Fine sandy loam	SM	A-2, A-4	0-5	90-100	75-100	70-100	30-50	<25	NP-3
	7-20	Loamy sand, sandy loam, gravelly sandy loam.	SM	A-2, A-4	0-5	85-100	75-95	40-95	25-50	---	NP
	20-60	Loamy sand, sand, very gravelly sand, gravelly loamy fine sand.	SP-SM, SP, SM	A-1, A-2, A-3	0-15	55-100	50-95	25-90	0-25	---	NP
495-------------- Ossipee	0-11	Hemic material---	PT	A-8	2-15	---	---	---	---	---	---
	11-30	Hemic material---	PT	A-8	2-15	---	---	---	---	---	---
	30-60	Silt loam, very fine sandy loam, sandy loam.	SM, ML, CL-ML, SC	A-4	0	100	100	100	40-90	<30	NP-10

See footnote at end of table.

TABLE 14.--ENGINEERING INDEX PROPERTIES--Continued

Soil name and map symbol	Depth	USDA texture	Classification		Frag- ments > 3 inches	Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO		4	10	40	200		
	In				Pct					Pct	
510B, 510C, 510E-Hoosic	0-5	Gravelly fine sandy loam.	GM, SM, ML	A-1, A-2, A-4	5-10	55-80	50-70	30-70	15-60	30-45	2-10
	5-18	Gravelly fine sandy loam, very gravelly fine sandy loam, gravelly loam.	GM, SM, GP-GM, SP-SM	A-1, A-2, A-4	5-10	40-75	35-65	20-60	10-45	20-30	2-8
	18-60	Very gravelly sand, extremely gravelly sand.	GM, GP, SP, SM	A-1	10-15	35-65	30-50	15-40	2-20	---	NP
513A, 513B-------Ninigret	0-10	Very fine sandy loam.	SM, ML	A-4	0-2	90-100	75-100	60-95	40-85	<35	NP-7
	10-33	Fine sandy loam, very fine sandy loam, silt loam.	SM, ML	A-2, A-4	0-2	90-100	75-100	60-95	30-80	<25	NP-4
	33-60	Stratified loamy fine sand to gravelly coarse sand.	SP, SM, GP, GM	A-1, A-2, A-3	0-25	45-100	30-100	15-80	2-30	---	NP
526A, 526B, 526C, 526E------------Caesar	0-5	Loamy sand-------	SM, SP-SM	A-2, A-1, A-3	0-5	85-100	70-100	35-65	5-30	---	NP
	5-18	Loamy sand, sand, coarse sand.	SM, SP, SW, SP-SM	A-2, A-1, A-3	0-5	85-100	70-100	35-60	0-30	---	NP
	18-60	Coarse sand, gravelly coarse sand.	SP, SW, SP-SM	A-1	0-5	70-100	55-100	35-50	0-10	---	NP
531A, 531B-------Scio	0-10	Very fine sandy loam.	ML	A-4	0	100	95-100	90-100	70-90	<20	NP-4
	10-60	Silt loam, very fine sandy loam.	ML	A-4	0	100	95-100	90-100	70-90	<20	NP-4
533--------------Raynham	0-11	Silt loam--------	ML, CL-ML	A-4	0	100	95-100	80-100	55-95	<25	NP-5
	11-25	Silt loam, silt, very fine sandy loam.	ML, CL-ML	A-4	0	100	95-100	80-100	55-95	<25	NP-5
	25-60	Silt loam, silt, very fine sandy loam.	ML, CL-ML	A-4	0	100	95-100	80-100	70-95	<25	NP-5
558B-------------Skerry	0-8	Fine sandy loam	SM	A-2, A-4	0-10	80-95	75-90	60-85	30-50	<18	NP-10
	8-19	Gravelly fine sandy loam, gravelly sandy loam, fine sandy loam.	SM	A-2, A-4	5-15	75-95	60-95	50-75	20-45	<12	NP-10
	19-60	Gravelly loamy sand, loamy sand, gravelly fine sandy loam.	SM, GM, GP-GM, SP-SM	A-1, A-2	5-25	60-85	45-75	30-70	10-35	---	NP

See footnote at end of table.

TABLE 14.--ENGINEERING INDEX PROPERTIES--Continued

Soil name and map symbol	Depth	USDA texture	Classification		Frag- ments > 3 inches	Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO		4	10	40	200		
	In				Pct					Pct	
559B, 559C: Skerry	0-1	Very stony fine sandy loam.	SM, SC, SM-SC	A-2, A-4, A-1-B	5-25	70-95	60-90	30-85	20-50	<30	NP-10
	1-19	Gravelly fine sandy loam, gravelly sandy loam, fine sandy loam.	SM, SC, SM-SC	A-2, A-4	5-15	75-95	60-95	50-75	20-45	<25	NP-10
	19-60	Gravelly loamy sand, loamy sand, gravelly fine sandy loam.	SM, GM, GP-GM, SP-SM	A-1, A-2	5-25	60-85	45-75	30-70	10-35	---	NP
613B: Croghan	0-7	Loamy fine sand	SM, SP-SM, SW-SM	A-1, A-3, A-4, A-2	0	95-100	95-100	45-80	5-40	---	NP
	7-25	Sand, gravelly sand, loamy fine sand.	SM, SP-SM, SW-SM	A-1, A-2, A-3, A-4	0	80-100	75-100	45-80	5-40	---	NP
	25-60	Sand, loamy sand	SM, SP-SM, SW-SM	A-1, A-2, A-3	0	80-100	75-100	45-75	5-30	---	NP
646B: Pillsbury	0-8	Fine sandy loam	ML, CL-ML	A-4, A-6	0-5	90-100	85-95	85-95	70-85	20-40	2-12
	8-19	Loam, fine sandy loam, gravelly fine sandy loam.	SM, ML	A-2, A-4	0-15	80-95	55-95	35-80	25-60	<25	NP-3
	19-60	Fine sandy loam, sandy loam, gravelly fine sandy loam.	SM, ML	A-2, A-4	0-15	80-95	55-95	35-80	25-60	<25	NP-3
647B: Pillsbury	0-5	Very stony fine sandy loam.	SM, ML	A-2, A-4	5-15	80-100	55-95	35-95	25-85	<25	NP-3
	5-19	Loam, fine sandy loam, gravelly fine sandy loam.	SM, ML	A-2, A-4	0-15	80-95	55-95	35-80	25-60	<25	NP-3
	19-60	Fine sandy loam, sandy loam, gravelly fine sandy loam.	SM, ML	A-2, A-4	0-15	80-95	55-95	35-80	25-60	<25	NP-3
771C*, 771D*: Berkshire	0-3	Extremely bouldery fine sandy loam.	SM, ML	A-2, A-4, A-5	20-45	80-95	70-90	45-85	25-65	<50	NP-10
	3-35	Fine sandy loam, sandy loam, gravelly fine sandy loam.	SM, ML	A-2, A-4, A-5	0-15	75-95	65-85	40-75	20-60	<50	NP-10
	35-60	Fine sandy loam, sandy loam, gravelly sandy loam.	SM, ML	A-2, A-4	0-15	75-90	65-85	40-80	20-55	<20	NP-6

See footnote at end of table.

TABLE 14.--ENGINEERING INDEX PROPERTIES--Continued

Soil name and map symbol	Depth	USDA texture	Classification		Frag- ments > 3 inches	Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO		4	10	40	200		
	In				Pct					Pct	
771C*, 771D*:											
Monadnock-------	0-5	Extremely bouldery fine sandy loam.	SM, ML	A-2, A-4	30-55	80-95	70-90	40-85	25-60	<15	NP
	5-23	Fine sandy loam, loam, gravelly fine sandy loam.	SM, ML	A-2, A-4	0-10	80-95	70-90	50-85	30-60	<12	NP
	23-60	Loamy sand, gravelly loamy sand, very gravelly loamy sand.	SM, SP-SM, SW-SM	A-1, A-2	0-35	65-85	50-80	20-60	10-30	---	NP

* See description of the map unit for composition and behavior characteristics of the map unit.

TABLE 15.--PHYSICAL AND CHEMICAL PROPERTIES OF THE SOILS

(The symbol < means less than; > means more than. Entries under "Erosion factors--T" apply to the entire profile. Entries under "Organic matter" apply only to the surface layer. Absence of an entry indicates that data were not available or were not estimated)

Soil name and map symbol	Depth	Clay	Moist bulk density	Permeability	Available water capacity	Soil reaction	Erosion factors K	Erosion factors T	Organic matter
	In	Pct	g/cc	In/hr	In/in	pH			Pct
2----------------- Suncook	0-8	1-3	1.10-1.30	>6.0	0.07-0.12	4.5-6.5	0.17	5	2-5
	8-26	0-3	1.20-1.50	>6.0	0.03-0.10	4.5-6.5	0.17		
	26-60	0-3	1.20-1.50	>6.0	0.01-0.10	4.5-6.5	0.10		
4----------------- Pootatuck	0-9	2-6	1.10-1.35	0.6-6.0	0.11-0.21	4.5-6.5	0.20	5	2-6
	9-28	1-6	1.20-1.45	0.6-6.0	0.09-0.18	4.5-6.5	0.20		
	28-60	0-2	1.25-1.50	>6.0	0.01-0.10	4.5-6.5	0.17		
5----------------- Rippowam	0-9	2-6	1.10-1.35	0.6-6.0	0.11-0.21	4.5-7.3	0.20	5	3-8
	9-30	1-6	1.20-1.45	0.6-6.0	0.09-0.18	4.5-7.3	0.20		
	30-60	0-2	1.25-1.50	>6.0	0.01-0.10	4.5-7.3	0.17		
6----------------- Saco	0-5	4-15	0.80-1.20	0.6-2.0	0.24-0.34	5.1-7.3	0.49	5	10-20
	5-12	2-15	1.20-1.50	0.6-2.0	0.16-0.26	5.1-7.3	0.64		
	12-60	2-15	1.20-1.50	0.6-2.0	0.16-0.26	5.6-7.3	0.64		
9----------------- Winooski	0-4	5-18	1.15-1.35	0.6-6.0	0.15-0.23	4.5-7.3	0.49	5	2-5
	4-60	2-10	1.20-1.50	0.6-6.0	0.13-0.21	4.5-7.3	0.49		
10B, 10C---------- Merrimac	0-19	3-7	1.10-1.20	2.0-6.0	0.14-0.19	3.6-6.0	0.24	3	1-5
	19-23	1-4	1.20-1.40	2.0-6.0	0.14-0.17	3.6-6.0	0.24		
	23-28	1-3	1.20-1.40	2.0-20.0	0.03-0.12	3.6-6.0	0.17		
	28-60	0-3	1.30-1.50	6.0-20	0.01-0.06	3.6-6.0	0.10		
14B--------------- Sheepscot	0-5	3-5	1.00-1.30	2.0-6.0	0.11-0.21	3.6-6.0	0.17	3	2-6
	5-13	1-5	1.20-1.50	2.0-6.0	0.06-0.15	3.6-6.0	0.10		
	13-32	0-3	1.45-1.70	>6.0	0.02-0.09	3.6-6.0	0.10		
	32-60	0-3	1.45-1.70	>6.0	0.01-0.06	4.5-6.0	0.10		
15---------------- Searsport	0-12	---	0.55-0.75	6.0-20	0.20-0.45	4.5-6.0	----	5	---
	12-34	1-5	1.15-1.35	>6.0	0.01-0.13	4.5-6.0	0.17		
	34-60	0-2	1.35-1.55	>6.0	0.01-0.09	4.5-6.0	0.17		
22A, 22B, 22C, 22E-------------- Colton	0-2	1-7	1.10-1.40	>6.0	0.03-0.12	3.6-6.5	0.17	3	3-8
	2-18	0-5	1.25-1.55	>6.0	0.02-0.05	3.6-5.5	0.17		
	18-60	0-3	1.45-1.65	>20	0.01-0.02	4.5-6.0	0.17		
24A, 24B, 24C----- Agawam	0-12	4-10	1.10-1.20	2.0-6.0	0.15-0.21	4.5-6.5	0.28	3	1-5
	12-20	1-10	1.20-1.40	2.0-6.0	0.11-0.21	4.5-6.5	0.37		
	20-25	1-6	1.30-1.40	2.0-6.0	0.11-0.18	4.5-6.5	0.28		
	25-52	1-2	1.30-1.40	6.0-20	0.02-0.12	4.5-6.5	0.17		
	52-60	0-1	1.30-1.50	>20	0.01-0.09	4.5-6.5	0.10		
26A, 26B, 26C, 26E-------------- Windsor	0-4	1-3	1.00-1.20	>6.0	0.09-0.12	4.5-6.0	0.17	5	2-4
	4-26	0-3	1.30-1.55	>6.0	0.07-0.10	4.5-6.0	0.17		
	26-60	0-2	1.40-1.65	>6.0	0.04-0.10	4.5-6.5	0.10		
30A, 30B, 30C----- Unadilla	0-8	2-18	1.20-1.50	0.6-2.0	0.18-0.21	4.5-7.3	0.49	3	2-7
	8-35	1-18	1.20-1.50	0.6-2.0	0.17-0.20	4.5-7.3	0.64		
	35-60	1-3	1.45-1.65	2.0-20.0	0.01-0.10	5.1-7.8	0.17		
36A, 36B, 36C, 36E-------------- Adams	0-6	0-5	1.00-1.30	6.0-20	0.05-0.12	4.5-5.5	0.17	5	1-4
	6-19	0-5	1.10-1.45	6.0-20	0.04-0.10	4.5-5.5	0.17		
	19-60	0-5	1.20-1.50	>20	0.03-0.04	4.5-6.5	0.17		

TABLE 15.--PHYSICAL AND CHEMICAL PROPERTIES OF THE SOILS--Continued

Soil name and map symbol	Depth	Clay	Moist bulk density	Permeability	Available water capacity	Soil reaction	Erosion factors K	Erosion factors T	Organic matter
	In	Pct	g/cc	In/hr	In/in	pH			Pct
56B, 56C--------- Becket	0-8	2-6	0.60-1.20	0.6-2.0	0.10-0.23	3.6-6.0	0.20	3	2-6
	8-31	2-7	1.30-1.60	0.6-2.0	0.06-0.16	3.6-6.0	0.28		
	31-60	1-5	1.60-1.75	0.06-0.6	0.03-0.09	5.1-6.5	0.17		
57B, 57C, 57D---- Becket	0-2	2-6	0.60-1.30	0.6-2.0	0.06-0.23	3.6-6.0	0.17	3	---
	2-31	2-7	1.30-1.60	0.6-2.0	0.06-0.16	3.6-6.0	0.28		
	31-60	1-5	1.60-1.75	0.06-0.6	0.03-0.09	5.1-6.5	0.17		
60B*, 60C*, 60D*:									
Tunbridge-------	0-4	5-9	0.80-1.20	0.6-6.0	0.11-0.20	3.6-6.0	0.17	2	2-4
	4-26	3-9	1.20-1.40	0.6-6.0	0.10-0.21	3.6-6.0	0.20		
	26	---	---	---	---	---	----		
Berkshire-------	0-3	3-10	1.10-1.15	0.6-6.0	0.06-0.22	3.6-6.0	0.20	3	2-5
	3-35	3-10	1.15-1.30	0.6-6.0	0.10-0.20	3.6-6.0	0.32		
	35-60	1-10	1.30-1.60	0.6-6.0	0.10-0.18	3.6-6.0	0.24		
61B*, 61C*, 61D*:									
Tunbridge-------	0-4	5-9	0.80-1.20	0.6-6.0	0.11-0.20	3.6-6.0	0.17	2	2-4
	4-26	3-9	1.20-1.40	0.6-6.0	0.10-0.21	3.6-6.0	0.20		
	26	---	---	---	---	---	----		
Lyman-----------	0-4	2-10	0.75-1.20	2.0-6.0	0.13-0.24	3.6-6.0	0.20	2	---
	4-16	2-10	0.90-1.40	2.0-6.0	0.08-0.28	3.6-6.0	0.32		
	16	---	---	---	---	---	----		
Rock outcrop.									
72B, 72C, 72D---- Berkshire	0-8	3-10	1.10-1.15	0.6-6.0	0.10-0.22	3.6-6.0	0.24	3	2-5
	8-35	3-10	1.15-1.30	0.6-6.0	0.10-0.20	3.6-6.0	0.32		
	35-60	1-10	1.30-1.60	0.6-6.0	0.10-0.18	3.6-6.0	0.24		
73B, 73C, 73D---- Berkshire	0-3	3-10	1.10-1.15	0.6-6.0	0.06-0.22	3.6-6.0	0.20	3	2-5
	3-35	3-10	1.15-1.30	0.6-6.0	0.10-0.20	3.6-6.0	0.32		
	35-60	1-10	1.30-1.60	0.6-6.0	0.10-0.18	3.6-6.0	0.24		
76B, 76C, 76D---- Marlow	0-8	3-10	1.00-1.30	0.6-2.0	0.10-0.23	3.6-6.0	0.24	3	2-6
	8-25	3-10	1.30-1.60	0.6-2.0	0.06-0.20	3.6-6.0	0.32		
	25-60	3-10	1.70-2.05	0.06-0.6	0.05-0.12	3.6-6.0	0.20		
77B, 77C, 77D, 77E------------ Marlow	0-4	3-10	1.00-1.30	0.6-2.0	0.10-0.23	3.6-6.0	0.20	3	---
	4-25	3-10	1.30-1.60	0.6-2.0	0.06-0.20	3.6-6.0	0.32		
	25-60	3-10	1.70-2.05	0.06-0.6	0.05-0.12	3.6-6.0	0.20		
78B, 78C--------- Peru	0-9	3-10	1.00-1.30	0.6-2.0	0.14-0.23	3.6-6.0	0.24	3	2-6
	9-25	3-10	1.30-1.60	0.6-2.0	0.06-0.20	3.6-6.0	0.32		
	25-60	3-10	1.60-2.05	0.06-0.6	0.05-0.12	3.6-6.0	0.24		
79B, 79C, 79D---- Peru	0-4	3-10	0.80-1.00	0.6-2.0	0.16-0.24	3.6-6.0	0.20	3	---
	4-25	3-10	1.30-1.60	0.6-2.0	0.06-0.20	3.6-6.0	0.32		
	25-60	3-10	1.60-2.05	0.06-0.6	0.05-0.12	3.6-6.0	0.24		
107*:									
Rippowam--------	0-9	2-6	1.10-1.35	0.6-6.0	0.11-0.21	4.5-7.3	0.20	5	3-8
	9-30	1-6	1.20-1.45	0.6-6.0	0.09-0.18	4.5-7.3	0.20		
	30-60	0-2	1.25-1.50	>6.0	0.01-0.10	4.5-7.3	0.17		
Saco------------	0-5	4-15	0.80-1.20	0.6-2.0	0.24-0.34	5.1-7.3	0.49	5	10-20
	5-12	2-15	1.20-1.50	0.6-2.0	0.16-0.26	5.1-7.3	0.64		
	12-60	2-15	1.20-1.50	0.6-2.0	0.16-0.26	5.6-7.3	0.64		

See footnote at end of table.

TABLE 15.--PHYSICAL AND CHEMICAL PROPERTIES OF THE SOILS--Continued

Soil name and map symbol	Depth	Clay	Moist bulk density	Permeability	Available water capacity	Soil reaction	Erosion factors K	Erosion factors T	Organic matter
	In	Pct	g/cc	In/hr	In/in	pH			Pct
108------------- Hadley	0-11	4-10	1.20-1.50	0.6-2.0	0.15-0.25	4.5-7.3	0.49	5	2-5
	11-42	2-10	1.20-1.50	0.6-6.0	0.13-0.20	4.5-7.8	0.49		
	42-60	1-8	1.20-1.50	0.6-6.0	0.10-0.20	5.1-7.8	0.49		
109------------- Limerick	0-3	4-10	1.10-1.50	0.6-2.0	0.18-0.30	5.1-7.3	0.49	3	2-5
	3-47	2-10	1.10-1.50	0.6-2.0	0.18-0.26	5.6-7.3	0.49		
	47-60	1-8	1.20-1.50	0.6-2.0	0.18-0.25	5.6-7.3	0.49		
142B, 142C------- Monadnock	0-5	1-8	0.80-1.20	0.6-2.0	0.15-0.21	3.6-6.0	0.28	3	3-8
	5-23	1-8	0.80-1.30	0.6-2.0	0.09-0.17	3.6-6.0	0.28		
	23-60	1-5	1.30-1.60	2.0-6.0	0.04-0.08	3.6-6.0	0.17		
143B, 143C, 143D- Monadnock	0-5	1-8	0.80-1.20	0.6-2.0	0.10-0.20	3.6-6.0	0.24	3	---
	5-23	1-8	0.80-1.30	0.6-2.0	0.09-0.17	3.6-6.0	0.28		
	23-60	1-5	1.30-1.60	2.0-6.0	0.04-0.08	3.6-6.0	0.17		
161E*:									
Lyman-----------	0-4	2-10	0.75-1.20	2.0-6.0	0.13-0.24	3.6-6.0	0.20	2	---
	4-16	2-10	0.90-1.40	2.0-6.0	0.08-0.28	3.6-6.0	0.32		
	16	---	---	---	---	---	----		
Tunbridge-------	0-4	5-9	0.80-1.20	0.6-6.0	0.11-0.20	3.6-6.0	0.17	2	2-4
	4-26	3-9	1.20-1.40	0.6-6.0	0.10-0.21	3.6-6.0	0.20		
	26	---	---	---	---	---	----		
Rock outcrop.									
168B------------ Sunapee	0-8	2-14	0.80-1.20	0.6-2.0	0.16-0.22	3.6-5.5	0.28	3	3-8
	8-25	2-12	0.80-1.30	0.6-2.0	0.07-0.17	3.6-5.5	0.20		
	25-60	2-10	1.20-1.50	0.6-6.0	0.03-0.17	3.6-6.0	0.20		
169B, 169C------- Sunapee	0-3	2-14	0.80-1.20	0.6-2.0	0.10-0.20	3.6-5.5	0.20	3	---
	3-25	2-12	0.80-1.30	0.6-2.0	0.07-0.17	3.6-5.5	0.20		
	25-60	2-10	1.20-1.50	0.6-6.0	0.03-0.17	3.6-6.0	0.20		
197. Borohemists									
214------------- Naumburg	0-3	1-5	1.20-1.50	2.0-6.0	0.05-0.09	3.6-5.5	0.17	5	3-7
	3-24	1-5	1.20-1.50	6.0-20	0.06-0.08	3.6-5.5	0.17		
	24-60	1-5	1.45-1.65	6.0-20	0.04-0.06	4.5-6.5	0.17		
218*:									
Raynham---------	0-11	3-16	1.20-1.50	0.6-2.0	0.20-0.30	5.1-7.3	0.49	5	3-10
	11-25	3-16	1.20-1.50	0.2-2.0	0.18-0.26	5.1-7.3	0.64		
	25-60	3-16	1.20-1.50	0.06-0.2	0.18-0.22	5.6-7.8	0.64		
Wareham---------	0-9	1-3	1.00-1.20	6.0-20	0.06-0.15	3.6-6.5	0.17	5	2-5
	9-18	0-3	1.30-1.50	6.0-20	0.03-0.13	3.6-6.5	0.17		
	18-60	0-3	1.40-1.60	6.0-20	0.01-0.13	3.6-6.5	0.17		
230E------------ Poocham	0-2	3-10	1.00-1.30	0.6-2.0	0.18-0.30	4.5-6.5	0.49	3	1-5
	2-13	3-10	1.20-1.50	0.6-2.0	0.18-0.26	4.5-6.5	0.49		
	13-60	3-15	1.20-1.50	0.2-2.0	0.16-0.21	4.5-6.5	0.49		
295------------- Greenwood	0-60	---	0.10-0.25	0.6-6.0	0.45-0.55	3.6-4.4	----	---	---
298*. Pits									

See footnote at end of table.

TABLE 15.--PHYSICAL AND CHEMICAL PROPERTIES OF THE SOILS--Continued

Soil name and map symbol	Depth	Clay	Moist bulk density	Permeability	Available water capacity	Soil reaction	Erosion factors K	Erosion factors T	Organic matter
	In	Pct	g/cc	In/hr	In/in	pH			Pct
299. Udorthents									
330B, 330C, 330D- Bernardston	0-2	2-12	1.00-1.15	0.6-2.0	0.15-0.22	4.5-6.0	0.28	3	2-5
	2-25	2-12	1.25-1.50	0.6-2.0	0.13-0.20	4.5-6.0	0.37		
	25-60	1-12	1.75-1.90	0.06-0.2	0.07-0.16	4.5-6.0	0.28		
331C, 331D, 331E- Bernardston	0-2	2-12	1.00-1.20	0.6-2.0	0.13-0.20	4.5-6.0	0.20	3	2-5
	2-25	2-12	1.25-1.50	0.6-2.0	0.13-0.20	4.5-6.0	0.37		
	25-60	1-12	1.75-1.90	0.06-0.2	0.07-0.16	4.5-6.0	0.28		
334B, 334C------- Pittstown	0-9	2-12	1.00-1.30	0.6-2.0	0.15-0.20	4.5-6.0	0.28	3	2-6
	9-21	2-12	1.30-1.60	0.6-2.0	0.15-0.20	4.5-6.0	0.37		
	21-60	2-12	1.70-2.00	0.06-0.2	0.10-0.15	4.5-6.0	0.28		
336B, 336C------- Pittstown	0-4	2-12	1.00-1.30	0.6-2.0	0.15-0.20	4.5-6.0	0.20	3	---
	4-21	2-12	1.30-1.60	0.6-2.0	0.15-0.20	4.5-6.0	0.37		
	21-60	2-12	1.70-2.00	0.06-0.2	0.10-0.15	4.5-6.0	0.28		
340B------------- Stissing	0-8	2-12	1.00-1.10	0.6-2.0	0.15-0.23	3.6-6.0	0.28	3	2-5
	8-20	2-12	1.20-1.50	0.6-2.0	0.13-0.20	3.6-6.0	0.37		
	20-60	1-12	1.70-1.90	0.06-0.2	0.02-0.06	3.6-6.0	0.28		
341B------------- Stissing	0-4	2-12	1.00-1.10	0.6-2.0	0.18-0.23	3.6-6.0	0.20	3	---
	4-20	2-12	1.20-1.50	0.6-2.0	0.13-0.20	3.6-6.0	0.37		
	20-60	1-12	1.70-1.90	0.06-0.2	0.02-0.06	3.6-6.0	0.28		
347B*:									
Lyme------------	0-6	3-10	1.00-1.25	0.6-6.0	0.06-0.24	4.5-5.5	0.24	3	---
	6-25	3-10	1.35-1.60	0.6-6.0	0.05-0.20	4.5-5.5	0.32		
	25-60	2-7	1.45-1.70	0.6-6.0	0.04-0.16	4.5-5.5	0.24		
Moosilauke------	0-7	2-10	0.80-1.20	2.0-6.0	0.10-0.23	4.5-6.0	0.24	3	---
	7-20	2-6	1.30-1.55	2.0-6.0	0.07-0.18	4.5-6.0	0.24		
	20-60	0-2	1.40-1.65	>6.0	0.01-0.13	4.5-6.0	0.10		
360B*, 360C*, 360D*:									
Cardigan-------	0-7	8-18	1.00-1.20	0.6-2.0	0.15-0.21	4.5-6.0	0.37	2	3-8
	7-22	8-18	1.20-1.40	0.6-2.0	0.10-0.20	4.5-6.0	0.37		
	22-31	4-16	1.50-1.70	0.6-2.0	0.10-0.14	4.5-6.0	0.37		
	31	---	---	---	---	---	----		
Kearsarge------	0-9	8-18	1.00-1.20	0.6-2.0	0.15-0.21	4.5-6.0	0.37	2	2-7
	9-17	4-18	1.20-1.50	0.6-2.0	0.10-0.20	4.5-6.0	0.37		
	17	---	---	---	---	---	----		
361C*, 361D*:									
Cardigan--------	0-4	8-18	1.00-1.20	0.6-2.0	0.11-0.16	4.5-6.0	0.28	2	---
	4-22	8-18	1.20-1.40	0.6-2.0	0.10-0.20	4.5-6.0	0.37		
	22-31	4-16	1.50-1.70	0.6-2.0	0.10-0.14	4.5-6.0	0.37		
	31	---	---	---	---	---	----		
Kearsarge-------	0-4	8-18	1.00-1.20	0.6-2.0	0.11-0.16	4.5-6.0	0.28	2	---
	4-17	4-18	1.20-1.50	0.6-2.0	0.10-0.20	4.5-6.0	0.37		
	17	---	---	---	---	---	----		
Rock outcrop.									

See footnote at end of table.

TABLE 15.--PHYSICAL AND CHEMICAL PROPERTIES OF THE SOILS--Continued

Soil name and map symbol	Depth	Clay	Moist bulk density	Permeability	Available water capacity	Soil reaction	Erosion factors		Organic matter
							K	T	
	In	Pct	g/cc	In/hr	In/in	pH			Pct
362E*:									
Kearsarge-------	0-4	8-18	1.00-1.20	0.6-2.0	0.11-0.16	4.5-6.0	0.28	2	---
	4-17	4-18	1.20-1.50	0.6-2.0	0.10-0.20	4.5-6.0	0.37		
	17	---	---	---	---	---	----		
Cardigan--------	0-4	8-18	1.00-1.20	0.6-2.0	0.11-0.16	4.5-6.0	0.28	2	---
	4-22	8-18	1.20-1.40	0.6-2.0	0.10-0.20	4.5-6.0	0.37		
	22-31	4-16	1.50-1.70	0.6-2.0	0.10-0.14	4.5-6.0	0.37		
	31	---	---	---	---	---	----		
Rock outcrop.									
365C*, 365D*, 365E*:									
Berkshire------	0-3	3-10	1.10-1.15	0.6-6.0	0.06-0.22	3.6-6.0	0.20	3	2-5
	3-35	3-10	1.15-1.30	0.6-6.0	0.10-0.20	3.6-6.0	0.32		
	35-60	1-10	1.30-1.60	0.6-6.0	0.10-0.18	3.6-6.0	0.24		
Monadnock------	0-5	1-8	0.80-1.20	0.6-2.0	0.07-0.17	3.6-6.0	0.20	3	---
	5-23	1-8	0.80-1.30	0.6-2.0	0.09-0.17	3.6-6.0	0.28		
	23-60	1-5	1.30-1.60	2.0-6.0	0.04-0.08	3.6-6.0	0.17		
366B, 366C, 366D- Dutchess	0-8	4-10	1.00-1.20	0.6-2.0	0.20-0.24	4.5-6.0	0.37	5	3-8
	8-21	4-10	1.30-1.50	0.6-2.0	0.14-0.20	4.5-6.0	0.37		
	21-60	4-10	1.40-1.60	0.6-2.0	0.10-0.18	5.1-6.5	0.32		
367C, 367D, 367E- Dutchess	0-3	4-10	1.00-1.20	0.6-2.0	0.16-0.20	4.5-6.0	0.28	5	3-8
	3-21	4-10	1.30-1.50	0.6-2.0	0.14-0.20	4.5-6.0	0.37		
	21-60	4-10	1.40-1.60	0.6-2.0	0.10-0.18	5.1-6.5	0.32		
395------------- Chocorua	0-14	---	0.15-0.25	0.6-6.0	0.45-0.60	3.6-4.4	----	---	80-95
	14-34	---	0.15-0.25	0.6-6.0	0.45-0.60	3.6-4.4	----		
	34-60	1-5	1.20-1.50	>6.0	0.01-0.11	4.5-6.0	0.17		
399*. Rock outcrop									
401------------- Occum	0-8	2-12	1.05-1.40	0.6-6.0	0.11-0.18	4.5-6.5	0.20	5	2-6
	8-29	2-12	1.20-1.50	0.6-6.0	0.10-0.20	4.5-6.5	0.20		
	29-60	0-5	1.30-1.60	>6.0	0.01-0.10	4.5-6.5	0.17		
410A, 410B, 410C- Haven	0-19	5-18	1.10-1.40	0.6-2.0	0.15-0.25	4.5-6.0	0.32	3	2-6
	19-22	2-18	1.25-1.55	0.6-2.0	0.08-0.12	4.5-6.0	0.24		
	22-60	0-3	1.45-1.65	>20	0.01-0.03	4.5-6.0	0.17		
414------------- Moosilauke	0-7	2-10	0.80-1.20	2.0-6.0	0.10-0.23	4.5-6.0	0.24	3	3-8
	7-20	2-6	1.30-1.55	2.0-6.0	0.07-0.18	4.5-6.0	0.24		
	20-60	0-2	1.40-1.65	>6.0	0.01-0.13	4.5-6.0	0.10		
495------------- Ossipee	0-11	---	0.15-0.25	0.6-6.0	0.45-0.60	3.6-4.4	----	---	80-95
	11-30	---	0.15-0.25	0.6-6.0	0.45-0.60	3.6-4.4	----		
	30-60	5-10	1.20-1.50	0.2-2.0	0.11-0.19	5.1-6.5	----		
510B, 510C, 510E- Hoosic	0-5	1-10	1.10-1.40	2.0-20	0.05-0.12	4.5-5.5	0.17	3-2	2-6
	5-18	1-10	1.25-1.55	2.0-20	0.05-0.11	4.5-5.5	0.17		
	18-60	0-5	1.45-1.65	>20	0.01-0.05	4.5-6.0	0.17		
513A, 513B------- Ninigret	0-10	3-12	1.00-1.25	0.6-6.0	0.15-0.24	4.5-6.0	0.32	3	2-5
	10-33	3-12	1.35-1.60	0.6-6.0	0.14-0.22	4.5-6.0	0.37		
	33-60	0-2	1.45-1.70	>6.0	0.01-0.10	4.5-6.5	0.15		

See footnote at end of table.

TABLE 15.--PHYSICAL AND CHEMICAL PROPERTIES OF THE SOILS--Continued

Soil name and map symbol	Depth	Clay	Moist bulk density	Permeability	Available water capacity	Soil reaction	Erosion factors K	Erosion factors T	Organic matter
	In	Pct	g/cc	In/hr	In/in	pH			Pct
526A, 526B, 526C, 526E------------ Caesar	0-5	1-5	1.00-1.30	>20	0.08-0.12	3.6-6.0	0.17	5	1-4
	5-18	1-5	1.30-1.50	>20	0.03-0.10	3.6-6.0	0.17		
	18-60	0-2	1.45-1.65	>20	0.01-0.04	4.5-6.5	0.10		
531A, 531B------- Scio	0-10	2-15	1.20-1.50	0.6-2.0	0.18-0.21	4.5-6.0	0.49	3	2-8
	10-60	2-15	1.20-1.50	0.6-2.0	0.17-0.20	4.5-6.5	0.64		
533-------------- Raynham	0-11	3-16	1.20-1.50	0.2-2.0	0.18-0.24	5.1-7.3	0.49	5	3-10
	11-25	3-16	1.20-1.50	0.2-2.0	0.18-0.22	5.1-7.3	0.64		
	25-60	3-16	1.20-1.60	0.06-0.2	0.17-0.21	5.6-7.8	0.64		
558B------------- Skerry	0-8	2-6	0.60-1.20	0.6-2.0	0.10-0.23	4.5-6.0	0.24	3	2-8
	8-19	2-7	1.30-1.60	0.6-2.0	0.06-0.16	4.5-6.0	0.28		
	19-60	1-5	1.60-1.75	0.06-0.6	0.03-0.09	4.5-6.0	0.17		
559B, 559C------- Skerry	0-1	2-6	0.60-1.30	0.6-2.0	0.06-0.23	4.5-6.0	0.20	3	---
	1-19	2-7	1.30-1.60	0.6-2.0	0.06-0.16	4.5-6.0	0.28		
	19-60	1-5	1.60-1.75	0.06-0.6	0.03-0.09	4.5-6.0	0.17		
613B------------- Croghan	0-7	0-5	1.10-1.50	6.0-20	0.05-0.09	4.5-6.0	0.17	5	2-9
	7-25	0-5	1.20-1.50	>20	0.03-0.07	4.5-6.0	0.17		
	25-60	0-5	1.20-1.50	>20	0.03-0.06	4.5-6.0	0.17		
646B------------- Pillsbury	0-8	2-10	1.00-1.30	0.6-2.0	0.06-0.24	4.5-5.5	0.28	3	4-7
	8-19	2-10	1.20-1.60	0.6-2.0	0.04-0.20	4.5-5.5	0.32		
	19-60	2-10	1.80-2.00	0.06-0.2	0.01-0.05	4.5-6.0	0.24		
647B------------- Pillsbury	0-5	2-10	1.00-1.30	0.6-2.0	0.06-0.24	4.5-5.5	0.24	3	---
	5-19	2-10	1.20-1.60	0.6-2.0	0.04-0.20	4.5-5.5	0.32		
	19-60	2-10	1.80-2.00	0.06-0.2	0.01-0.05	4.5-6.0	0.24		
771C*, 771D*:									
Berkshire-------	0-3	3-10	1.10-1.15	0.6-6.0	0.06-0.22	3.6-6.0	0.20	3	2-5
	3-35	3-10	1.15-1.30	0.6-6.0	0.10-0.20	3.6-6.0	0.32		
	35-60	1-10	1.30-1.60	0.6-6.0	0.10-0.18	3.6-6.0	0.24		
Monadnock-------	0-5	1-8	0.80-1.20	0.6-2.0	0.07-0.17	3.6-6.0	0.17	3	---
	5-23	1-8	0.80-1.30	0.6-2.0	0.09-0.17	3.6-6.0	0.28		
	23-60	1-5	1.30-1.60	2.0-6.0	0.04-0.08	3.6-6.0	0.17		

* See description of the map unit for composition and behavior characteristics of the map unit.

TABLE 16.--SOIL AND WATER FEATURES

("Flooding" and "water table" and terms such as "rare," "brief," "apparent," and "perched" are explained in the text. The symbol < means less than; > means more than. Absence of an entry indicates that the feature is not a concern or that data were not estimated)

Soil name and map symbol	Hydro-logic group	Flooding			High water table			Bedrock		Potential frost action
		Frequency	Duration	Months	Depth	Kind	Months	Depth	Hardness	
					Ft			In		
2----------------- Suncook	A	Occasional	Brief-----	Mar-May	3.0-6.0	Apparent	Jan-Apr	>60	---	Low.
4----------------- Pootatuck	B	Occasional	Brief-----	Nov-Apr	1.5-2.5	Apparent	Nov-Apr	>60	---	Moderate.
5----------------- Rippowam	C	Frequent----	Brief-----	Oct-May	0-1.5	Apparent	Sep-Jun	>60	---	High.
6----------------- Saco	D	Frequent----	Brief-----	Oct-May	0-0.5	Apparent	Sep-Jun	>60	---	High.
9----------------- Winooski	B	Occasional	Brief-----	Feb-Apr	1.5-3.0	Apparent	Nov-Apr	>60	---	High.
10B, 10C---------- Merrimac	A	None--------	---	---	>6.0	---	---	>60	---	Low.
14B--------------- Sheepscot	B	None--------	---	---	1.5-2.5	Apparent	Nov-May	>60	---	Low.
15---------------- Searsport	D	None--------	---	---	+1-1.0	Apparent	Sep-Jul	>60	---	Moderate.
22A, 22B, 22C, 22E-------------- Colton	A	None--------	---	---	>6.0	---	---	>60	---	Low.
24A, 24B, 24C----- Agawam	B	None--------	---	---	>6.0	---	---	>60	---	Low.
26A, 26B, 26C, 26E-------------- Windsor	A	None--------	---	---	>6.0	---	---	>60	---	Low.
30A, 30B, 30C----- Unadilla	B	None--------	---	---	>6.0	---	---	>60	---	High.
36A, 36B, 36C, 36E-------------- Adams	A	None--------	---	---	>6.0	---	---	>60	---	Low.
56B, 56C, 57B, 57C, 57D--------- Becket	C	None--------	---	---	2.0-3.5	Perched	Mar-Apr	>60	---	Moderate.
60B*, 60C*, 60D*: Tunbridge--------	C	None--------	---	---	>6.0	---	---	20-40	Hard	Moderate.
Berkshire--------	B	None--------	---	---	>6.0	---	---	>60	---	Moderate.
61B*, 61C*, 61D*: Tunbridge--------	C	None--------	---	---	>6.0	---	---	20-40	Hard	Moderate.
Lyman------------	C/D	None--------	---	---	>6.0	---	---	10-20	Hard	Moderate.

See footnote at end of table.

TABLE 16.--SOIL AND WATER FEATURES--Continued

Soil name and map symbol	Hydro-logic group	Flooding: Frequency	Flooding: Duration	Flooding: Months	High water table: Depth	High water table: Kind	High water table: Months	Bedrock: Depth	Bedrock: Hardness	Potential frost action
					Ft			In		
61B*, 61C*, 61D*: Rock outcrop.										
72B, 72C, 72D, 73B, 73C, 73D Berkshire	B	None	---	---	>6.0	---	---	>60	---	Moderate.
76B, 76C, 76D, 77B, 77C, 77D, 77E Marlow	C	None	---	---	2.0-3.5	Perched	Mar-Apr	>60	---	Moderate.
78B, 78C, 79B, 79C, 79D Peru	C	None	---	---	1.5-2.5	Perched	Nov-May	>60	---	High.
107*:										
Rippowam	C	Frequent	Brief	Oct-May	0-1.5	Apparent	Sep-Jun	>60	---	High.
Saco	D	Frequent	Brief	Oct-May	0-0.5	Apparent	Sep-Jun	>60	---	High.
108 Hadley	B	Occasional	Brief	Feb-Apr	4.0-6.0	Apparent	Nov-Apr	>60	---	High.
109 Limerick	C	Frequent	Brief	Nov-May	0-1.5	Apparent	Nov-Jun	>60	---	High.
142B, 142C, 143B, 143C, 143D Monadnock	B	None	---	---	>6.0	---	---	>60	---	Low.
161E*:										
Lyman	C/D	None	---	---	>6.0	---	---	10-20	Hard	Moderate.
Tunbridge	C	None	---	---	>6.0	---	---	20-40	Hard	Moderate.
Rock outcrop.										
168B, 169B, 169C Sunapee	B	None	---	---	1.5-3.0	Apparent	Nov-May	>60	---	Moderate.
197. Borohemists										
214 Naumburg	C	None	---	---	0-1.5	Apparent	Dec-Apr	>60	---	Moderate.
218*:										
Raynham	C	Occasional	Brief	Mar-May	0.5-2.0	Apparent	Nov-May	>60	---	High.
Wareham	C	Occasional	Brief	Mar-May	0-1.5	Apparent	Sep-Jun	>60	---	Moderate.
230E Poocham	B	None	---	---	>6.0	---	---	>60	---	High.
295 Greenwood	A/D	None	---	---	+1-1.0	Apparent	Sep-Jun	>60	---	High.
298*. Pits										

See footnote at end of table.

TABLE 16.--SOIL AND WATER FEATURES--Continued

Soil name and map symbol	Hydro-logic group	Flooding			High water table			Bedrock		Potential frost action
		Frequency	Duration	Months	Depth	Kind	Months	Depth	Hardness	
					Ft			In		
299. Udorthents										
330B, 330C, 330D-- Bernardston	C	None--------	---	---	1.5-3.0	Perched	Feb-Apr	>60	---	Moderate.
331C, 331D, 331E-- Bernardston	C	None--------	---	---	1.5-3.0	Perched	Feb-Apr	>60	---	Moderate.
334B, 334C, 336B, 336C------------- Pittstown	C	None--------	---	---	1.5-2.0	Perched	Nov-Apr	>60	---	Moderate.
340B, 341B-------- Stissing	C	None--------	---	---	0-1.5	Perched	Oct-May	>60	---	High.
347B*:										
Lyme-------------	C	None--------	---	---	0-1.5	Apparent	Nov-May	>60	---	High.
Moosilauke-------	C	None--------	---	---	0-1.5	Apparent	Nov-May	>60	---	High.
360B*, 360C*, 360D*:										
Cardigan--------	B	None--------	---	---	>6.0	---	---	20-40	Hard	Moderate.
Kearsarge-------	B	None--------	---	---	>6.0	---	---	10-20	Hard	Moderate.
361C*, 361D*:										
Cardigan---------	B	None--------	---	---	>6.0	---	---	20-40	Hard	Moderate.
Kearsarge--------	B	None--------	---	---	>6.0	---	---	10-20	Hard	Moderate.
Rock outcrop.										
362E*:										
Kearsarge--------	B	None--------	---	---	>6.0	---	---	10-20	Hard	Moderate.
Cardigan---------	B	None--------	---	---	>6.0	---	---	20-40	Hard	Moderate.
Rock outcrop.										
365C*, 365D*, 365E*:										
Berkshire-------	B	None--------	---	---	>6.0	---	---	>60	---	Moderate.
Monadnock-------	B	None--------	---	---	>6.0	---	---	>60	---	Low.
366B, 366C, 366D, 367C, 367D, 367E- Dutchess	B	None--------	---	---	>6.0	---	---	>60	---	Moderate.
395--------------- Chocorua	D	None--------	---	---	+1-0.5	Apparent	Jan-Dec	>60	---	High.
399*. Rock outcrop										
401--------------- Occum	B	Occasional	Brief-----	Feb-Apr	4.0-6.0	Apparent	Nov-Apr	>60	---	Moderate.

See footnote at end of table.

TABLE 16.--SOIL AND WATER FEATURES--Continued

Soil name and map symbol	Hydro-logic group	Flooding			High water table			Bedrock		Potential frost action
		Frequency	Duration	Months	Depth	Kind	Months	Depth	Hardness	
					Ft			In		
410A, 410B, 410C-- Haven	B	None--------	---	---	>6.0	---	---	>60	---	Moderate.
414-------------- Moosilauke	C	None--------	---	---	0-1.5	Apparent	Nov-May	>60	---	High.
495-------------- Ossipee	D	None--------	---	---	+1-0.5	Apparent	Jan-Dec	>60	---	High.
510B, 510C, 510E-- Hoosic	A	None--------	---	---	>6.0	---	---	>60	---	Low.
513A, 513B-------- Ninigret	B	None--------	---	---	1.5-2.5	Apparent	Nov-Apr	>60	---	High.
526A, 526B, 526C, 526E------------ Caesar	A	None--------	---	---	>6.0	---	---	>60	---	Low.
531A, 531B-------- Scio	B	None--------	---	---	1.5-2.0	Apparent	Mar-May	>60	---	High.
533-------------- Raynham	C	None--------	---	---	0.5-2.0	Apparent	Nov-May	>60	---	High.
558B, 559B, 559C-- Skerry	C	None--------	---	---	1.5-2.5	Perched	Nov-May	>60	---	High.
613B------------- Croghan	B	None--------	---	---	1.5-2.0	Apparent	Nov-May	>60	---	Moderate.
646B, 647B-------- Pillsbury	C	None--------	---	---	0-1.5	Perched	Nov-May	>60	---	High.
771C*, 771D*: Berkshire--------	B	None--------	---	---	>6.0	---	---	>60	---	Moderate.
Monadnock--------	B	None--------	---	---	>6.0	---	---	>60	---	Low.

* See description of the map unit for composition and behavior characteristics of the map unit.

TABLE 17.--CLASSIFICATION OF THE SOILS

Soil name	Family or higher taxonomic class
Adams	Sandy, mixed, frigid Typic Haplorthods
Agawam	Coarse-loamy over sandy or sandy-skeletal, mixed, mesic Typic Dystrochrepts
Becket	Coarse-loamy, mixed, frigid Typic Haplorthods
Berkshire	Coarse-loamy, mixed, frigid Typic Haplorthods
Bernardston	Coarse-loamy, mixed, mesic Typic Dystrochrepts
Caesar	Mixed, mesic Typic Udipsamments
Cardigan	Coarse-loamy, mixed, mesic Typic Dystrochrepts
Chocorua	Sandy or sandy-skeletal, mixed, dysic Terric Borohemists
Colton	Sandy-skeletal, mixed, frigid Typic Haplorthods
Croghan	Sandy, mixed, frigid Aquic Haplorthods
Dutchess	Coarse-loamy, mixed, mesic Typic Dystrochrepts
Greenwood	Dysic Typic Borohemists
Hadley	Coarse-silty, mixed, nonacid, mesic Typic Udifluvents
Haven	Coarse-loamy over sandy or sandy-skeletal, mixed, mesic Typic Dystrochrepts
Hoosic	Sandy-skeletal, mixed, mesic Typic Dystrochrepts
Kearsarge	Loamy, mixed, mesic Lithic Dystrochrepts
Limerick	Coarse-silty, mixed, nonacid, mesic Typic Fluvaquents
Lyman	Loamy, mixed, frigid Lithic Haplorthods
Lyme	Coarse-loamy, mixed, acid, frigid Aeric Haplaquepts
Marlow	Coarse-loamy, mixed, frigid Typic Haplorthods
Merrimac	Sandy, mixed, mesic Typic Dystrochrepts
Monadnock	Coarse-loamy over sandy or sandy-skeletal, mixed, frigid Typic Haplorthods
Moosilauke	Sandy, mixed, frigid Aeric Haplaquepts
Naumburg	Sandy, mixed, frigid Aeric Haplaquods
Ninigret	Coarse-loamy over sandy or sandy-skeletal, mixed, mesic Aquic Dystrochrepts
Occum	Coarse-loamy, mixed, mesic Fluventic Dystrochrepts
Ossipee	Loamy, mixed, dysic Terric Borohemists
Peru	Coarse-loamy, mixed, frigid Aquic Haplorthods
Pillsbury	Coarse-loamy, mixed, acid, frigid Aeric Haplaquepts
Pittstown	Coarse-loamy, mixed, mesic Aquic Dystrochrepts
Poocham	Coarse-silty, mixed, mesic Typic Dystrochrepts
Pootatuck	Coarse-loamy, mixed, mesic Fluvaquentic Dystrochrepts
Raynham	Coarse-silty, mixed, nonacid, mesic Aeric Haplaquepts
Rippowam	Coarse-loamy, mixed, nonacid, mesic Aeric Fluvaquents
Saco	Coarse-silty, mixed, nonacid, mesic Fluvaquentic Humaquepts
Scio	Coarse-silty, mixed, mesic Aquic Dystrochrepts
Searsport	Sandy, mixed, frigid Histic Humaquepts
Sheepscot	Sandy-skeletal, mixed, frigid Typic Haplorthods
Skerry	Coarse-loamy, mixed, frigid Aquic Haplorthods
Stissing	Coarse-loamy, mixed, acid, mesic Typic Haplaquepts
Sunapee	Coarse-loamy, mixed, frigid Aquic Haplorthods
Suncook	Mixed, mesic Typic Udipsamments
Tunbridge	Coarse-loamy, mixed, frigid Typic Haplorthods
Unadilla	Coarse-silty, mixed, mesic Typic Dystrochrepts
Wareham	Mixed, mesic Humaqueptic Psammaquents
Windsor	Mixed, mesic Typic Udipsamments
Winooski	Coarse-silty, mixed, nonacid, mesic Aquic Udifluvents

TABLE 18.--RELATIONSHIP AMONG PARENT MATERIAL, DOMINANT TEXTURE, AND DRAINAGE OF THE SOILS

Parent material	Excessively drained	Somewhat excessively drained	Well drained	Moderately well drained	Somewhat poorly drained	Poorly drained	Very poorly drained
Soils that formed in alluvium:							
Coarse textured	Suncook						
Moderately coarse textured			Occum	Pootatuck		Rippowam	
Medium textured			Hadley	Winooski		Limerick	Saco
Soils that formed in glacial outwash:							
Stratified sands and gravel	Colton			Sheepscot			
Moderately coarse textured material over stratified sands and gravel		Hoosic Merrimac			Moosilauke	Moosilauke	
Medium textured material over stratified sands and gravel			Haven	Ninigret			
Coarse sands	Caesar						
Sands that are nearly gravel free	Adams Windsor			Croghan	Naumburg	Naumburg	Searsport
Medium textured			Agawam	Ninigret			
Soils that formed in glacial lake sediments:							
Coarse textured					Wareham	Wareham	
Medium textured			Poocham Unadila	Scio		Raynham	
Soils that formed in glacial till:							
Friable, moderately coarse textured		Lyman*	Monadnock Berkshire Tunbridge**	Sunapee		Lyme	
Friable, medium textured		Kearsarge*	Dutchess Cardigan**				

See footnote at end of table.

TABLE 18.--RELATIONSHIP AMONG PARENT MATERIAL, DOMINANT TEXTURE, AND DRAINAGE OF THE SOILS--Continued

Parent Material	Excessively drained	Somewhat excessively drained	Well drained	Moderately well drained	Somewhat poorly drained	Poorly drained	Very poorly drained
Soils that formed in glacial till:							
Firm, moderately coarse textured			Marlow Becket	Peru Skerry	Pillsbury	Pillsbury	
Firm, medium textured			Bernardston	Pittstown		Stissing	
Soils that formed in organic material:							
Organic deposits of variable depth and composition							Borohemists
Partly decomposed organic deposits more than 51 inches deep							Greenwood
Shallow, partly decomposed organic deposits 16 to 50 inches deep over sandy mineral material							Chocorua
Shallow, partly decomposed organic deposits 16 to 50 inches deep over loamy mineral material							Ossipee
Soils that formed in material disturbed by man:			Udorthents				

* Shallow to bedrock.
** Moderately deep to bedrock.

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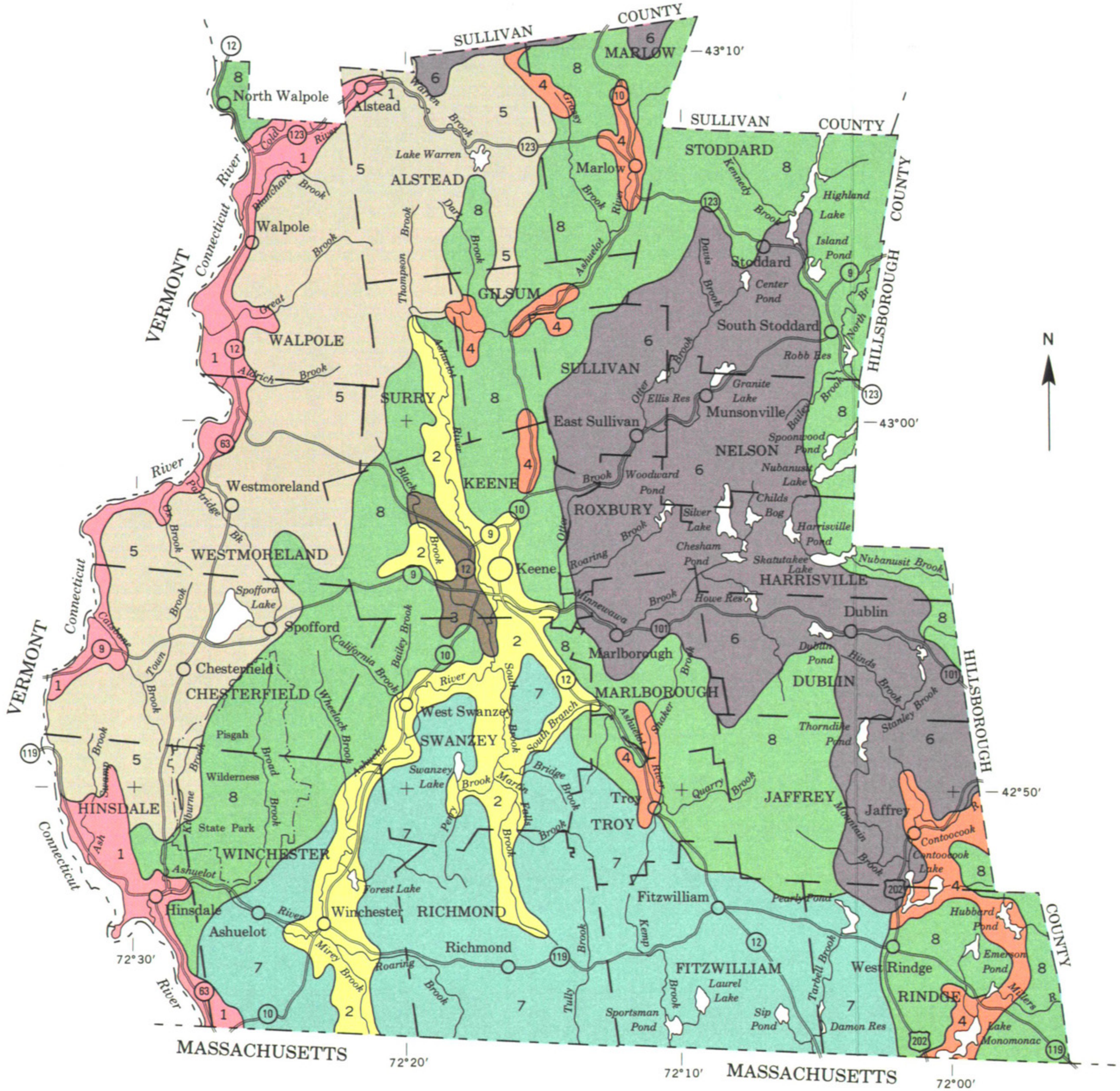


LEGEND*

1 — WINDSOR-AGAWAM-HOOSIC: Very deep, nearly level to very steep, excessively drained, well drained, and somewhat excessively drained, sandy and loamy soils that formed in glacial outwash deposits

2 — CAESAR-WINDSOR: Very deep, nearly level to very steep, excessively drained, sandy soils that formed in glacial outwash deposits

3 — RAYNHAM-OSSIPEE-RIPPOWAM: Very deep, nearly level, poorly drained and very poorly drained, loamy and mucky soils that formed in lake deposits, organic deposits, and alluvial deposits

4 — COLTON-ADAMS: Very deep, nearly level to very steep, excessively drained, sandy soils that formed in glacial outwash deposits

5 — BERNARDSTON-CARDIGAN-KEARSARGE-DUTCHESS: Very deep, moderately deep, and shallow, gently sloping to very steep, well drained and somewhat excessively drained, loamy soils that formed in glacial till

6 — MARLOW-BERKSHIRE-TUNBRIDGE: Very deep and moderately deep, gently sloping to very steep, well drained, loamy soils that formed in glacial till

7 — MONADNOCK-TUNBRIDGE: Very deep and moderately deep, gently sloping to very steep, well drained, loamy soils that formed in glacial till

8 — BERKSHIRE-TUNBRIDGE-LYMAN: Very deep, moderately deep, and shallow, gently sloping to very steep, well drained and somewhat excessively drained, loamy soils that formed in glacial till

*The texture given in the descriptive heading of each map unit refers to the texture of the surface layer of major soils in that map unit.

COMPILED 1986

UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
NEW HAMPSHIRE AGRICULTURAL EXPERIMENT STATION

GENERAL SOIL MAP

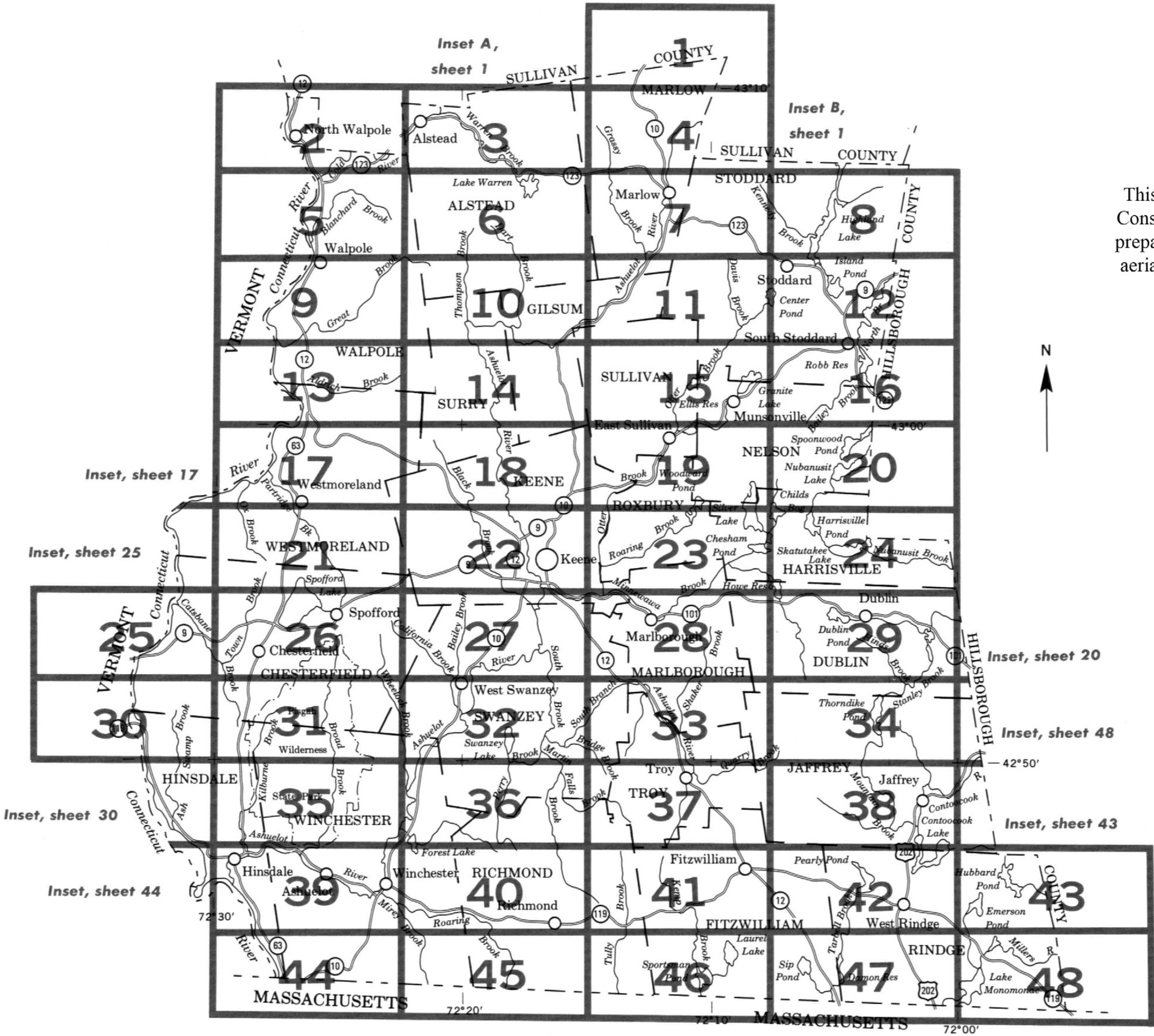
CHESHIRE COUNTY, NEW HAMPSHIRE

Scale 1:253,440

1 0 1 2 3 4 Miles

1 0 4 8 Km

Each area outlined on this map consists of more than one kind of soil. The map is thus meant for general planning rather than a basis for decisions on the use of specific tracts.



INDEX TO MAP SHEETS

CHESHIRE COUNTY, NEW HAMPSHIRE

Scale 1:253,440

1 0 1 2 3 4 Miles

1 0 4 8 Km

Original text from each individual map sheet read:
This soil survey map was compiled by the U. S. Department of Agriculture, Soil Conservation Service, and cooperating agencies. Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey from 1972 – 1976 aerial photography. Coordinate grid ticks and land division corners, if shown, are approximately positioned.

SOIL LEGEND

Publication symbols consist of numbers or a combination of numbers and letters (e.g., 5, 330B, 771C). The initial numbers represent the kind of soil. A capital letter of A, B, C, D, or E, following these numbers indicates the class of slope. Symbols without a slope letter are for nearly level soils, soils named for higher categories, or for miscellaneous areas.

SYMBOL	NAME
2	Suncook loamy fine sand
4	Pootatuck fine sandy loam
5	Rippowam fine sandy loam
6	Saco mucky silt loam
9	Winooski silt loam
10B	Merrimac fine sandy loam, 3 to 8 percent slopes
10C	Merrimac fine sandy loam, 8 to 15 percent slopes
14B	Sheepscot sandy loam, 0 to 5 percent slopes
15	Searsport mucky peat
22A	Colton loamy fine sand, 0 to 3 percent slopes
22B	Colton loamy fine sand, 3 to 8 percent slopes
22C	Colton loamy fine sand, 8 to 15 percent slopes
22E	Colton loamy fine sand, 15 to 50 percent slopes
24A	Agawam very fine sandy loam, 0 to 3 percent slopes
24B	Agawam very fine sandy loam, 3 to 8 percent slopes
24C	Agawam very fine sandy loam, 8 to 15 percent slopes
26A	Windsor loamy fine sand, 0 to 3 percent slopes
26B	Windsor loamy fine sand, 3 to 8 percent slopes
26C	Windsor loamy fine sand, 8 to 15 percent slopes
26E	Windsor loamy fine sand, 15 to 50 percent slopes
30A	Unadilla very fine sandy loam, 0 to 3 percent slopes
30B	Unadilla very fine sandy loam, 3 to 8 percent slopes
30C	Unadilla very fine sandy loam, 8 to 15 percent slopes
36A	Adams loamy sand, 0 to 3 percent slopes
36B	Adams loamy sand, 3 to 8 percent slopes
36C	Adams loamy sand, 8 to 15 percent slopes
36E	Adams loamy sand, 15 to 50 percent slopes
56B	Becket fine sandy loam, 3 to 8 percent slopes
56C	Becket fine sandy loam, 8 to 15 percent slopes
57B	Becket fine sandy loam, 3 to 8 percent slopes, very stony
57C	Becket fine sandy loam, 8 to 15 percent slopes, very stony
57D	Becket fine sandy loam, 15 to 25 percent slopes, very stony
60B	Tunbridge-Berkshire complex, 3 to 8 percent slopes, very stony
60C	Tunbridge-Berkshire complex, 8 to 15 percent slopes, very stony
60D	Tunbridge-Berkshire complex, 15 to 25 percent slopes, very stony
61B	Tunbridge-Lyman-Rock outcrop complex, 3 to 8 percent slopes
61C	Tunbridge-Lyman-Rock outcrop complex, 8 to 15 percent slopes
61D	Tunbridge-Lyman-Rock outcrop complex, 15 to 25 percent slopes
72B	Berkshire fine sandy loam, 3 to 8 percent slopes
72C	Berkshire fine sandy loam, 8 to 15 percent slopes
72D	Berkshire fine sandy loam, 15 to 25 percent slopes
73B	Berkshire fine sandy loam, 3 to 8 percent slopes, very stony
73C	Berkshire fine sandy loam, 8 to 15 percent slopes, very stony
73D	Berkshire fine sandy loam, 15 to 25 percent slopes, very stony
76B	Marlow fine sandy loam, 3 to 8 percent slopes
76C	Marlow fine sandy loam, 8 to 15 percent slopes
76D	Marlow fine sandy loam, 15 to 25 percent slopes
77B	Marlow fine sandy loam, 3 to 8 percent slopes, very stony
77C	Marlow fine sandy loam, 8 to 15 percent slopes, very stony
77D	Marlow fine sandy loam, 15 to 25 percent slopes, very stony
77E	Marlow fine sandy loam, 25 to 50 percent slopes, very stony
78B	Peru fine sandy loam, 3 to 8 percent slopes
78C	Peru fine sandy loam, 8 to 15 percent slopes
79B	Peru fine sandy loam, 3 to 8 percent slopes, very stony
79C	Peru fine sandy loam, 8 to 15 percent slopes, very stony
79D	Peru fine sandy loam, 15 to 25 percent slopes, very stony
107	Rippowam-Saco complex
108	Hadley silt loam
109	Limerick silt loam
142B	Monadnock fine sandy loam, 3 to 8 percent slopes
142C	Monadnock fine sandy loam, 8 to 15 percent slopes
143B	Monadnock fine sandy loam, 3 to 8 percent slopes, very stony
143C	Monadnock fine sandy loam, 8 to 15 percent slopes, very stony
143D	Monadnock fine sandy loam, 15 to 25 percent slopes, very stony
161E	Lyman-Tunbridge-Rock outcrop complex, 25 to 50 percent slopes
168B	Sunapee fine sandy loam, 3 to 8 percent slopes
169B	Sunapee fine sandy loam, 3 to 8 percent slopes, very stony
169C	Sunapee fine sandy loam, 8 to 15 percent slopes, very stony
197	Borohemists, ponded
214	Naumburg loamy fine sand
218	Raynham-Wareham complex, occasionally flooded
230E	Poocham very fine sandy loam, 25 to 70 percent slopes
295	Greenwood mucky peat
298	Pits, gravel
299	Udorthents, smoothed
330B	Bernardston silt loam, 3 to 8 percent slopes
330C	Bernardston silt loam, 8 to 15 percent slopes
330D	Bernardston silt loam, 15 to 25 percent slopes
331C	Bernardston silt loam, 8 to 15 percent slopes, very stony
331D	Bernardston silt loam, 15 to 25 percent slopes, very stony
331E	Bernardston silt loam, 25 to 50 percent slopes, very stony
334B	Pittstown silt loam, 3 to 8 percent slopes
334C	Pittstown silt loam, 8 to 15 percent slopes
336B	Pittstown silt loam, 3 to 8 percent slopes, very stony
336C	Pittstown silt loam, 8 to 15 percent slopes, very stony
340B	Stissing silt loam, 0 to 5 percent slopes
341B	Stissing silt loam, 0 to 5 percent slopes, very stony
347B	Lyme and Moosilauke soils, 0 to 5 percent slopes, very stony
360B	Cardigan-Kearsarge complex, 3 to 8 percent slopes
360C	Cardigan-Kearsarge complex, 8 to 15 percent slopes
360D	Cardigan-Kearsarge complex, 15 to 25 percent slopes
361C	Cardigan-Kearsarge-Rock outcrop complex, 8 to 15 percent slopes
361D	Cardigan-Kearsarge-Rock outcrop complex, 15 to 25 percent slopes
362E	Kearsarge-Cardigan-Rock outcrop complex, 25 to 50 percent slopes
365C	Berkshire and Monadnock soils, 8 to 15 percent slopes, extremely stony
365D	Berkshire and Monadnock soils, 15 to 25 percent slopes, extremely stony
365E	Berkshire and Monadnock soils, 25 to 50 percent slopes, extremely stony
366B	Dutchess silt loam, 3 to 8 percent slopes
366C	Dutchess silt loam, 8 to 15 percent slopes
366D	Dutchess silt loam, 15 to 25 percent slopes
367C	Dutchess silt loam, 8 to 15 percent slopes, very stony
367D	Dutchess silt loam, 15 to 25 percent slopes, very stony
367E	Dutchess silt loam, 25 to 50 percent slopes, very stony
395	Chocorua mucky peat
399	Rock outcrop
401	Occum fine sandy loam
410A	Haven very fine sandy loam, 0 to 3 percent slopes
410B	Haven very fine sandy loam, 3 to 8 percent slopes
410C	Haven very fine sandy loam, 8 to 15 percent slopes
414	Moosilauke fine sandy loam
495	Ossipee mucky peat
510B	Hoosic gravelly fine sandy loam, 3 to 8 percent slopes
510C	Hoosic gravelly fine sandy loam, 8 to 15 percent slopes
510E	Hoosic gravelly fine sandy loam, 15 to 50 percent slopes
513A	Ninigret very fine sandy loam, 0 to 3 percent slopes
513B	Ninigret very fine sandy loam, 3 to 8 percent slopes
526A	Caesar loamy sand, 0 to 3 percent slopes
526B	Caesar loamy sand, 3 to 8 percent slopes
526C	Caesar loamy sand, 8 to 15 percent slopes
526E	Caesar loamy sand, 15 to 50 percent slopes
531A	Scio very fine sandy loam, 0 to 3 percent slopes
531B	Scio very fine sandy loam, 3 to 8 percent slopes
533	Raynham silt loam
558B	Skerry fine sandy loam, 3 to 8 percent slopes
559B	Skerry fine sandy loam, 3 to 8 percent slopes, very stony
559C	Skerry fine sandy loam, 8 to 15 percent slopes, very stony
613B	Croghan loamy fine sand, 0 to 5 percent slopes
646B	Pillsbury fine sandy loam, 0 to 5 percent slopes
647B	Pillsbury fine sandy loam, 0 to 5 percent slopes, very stony
771C	Berkshire and Monadnock soils, 8 to 15 percent slopes, extremely bouldery
771D	Berkshire and Monadnock soils, 15 to 35 percent slopes, extremely bouldery
W	Water

CONVENTIONAL AND SPECIAL SYMBOLS LEGEND

CULTURAL FEATURES

BOUNDARIES

- National, state or province
- County or parish
- Minor civil division
- Reservation (national forest or park, state forest or park, and large airport)
- Land grant
- Limit of soil survey (label)
- Field sheet matchline and neatline

AD HOC BOUNDARY (label)

- Small airport, airfield, park, oilfield, cemetery, or flood pool

STATE COORDINATE TICK

LAND DIVISION CORNER (sections and land grants)

ROADS

- Divided (median shown if scale permits)
- Other roads
- Trail

ROAD EMBLEM & DESIGNATIONS

- Interstate
- Federal
- State
- County, farm or ranch

RAILROAD

POWER TRANSMISSION LINE (normally not shown)

PIPE LINE (normally not shown)

FENCE (normally not shown)

LEVEES

- Without road
- With road
- With railroad

DAMS

- Large (to scale)
- Medium or Small

PITS

- Gravel pit
- Mine or quarry

MISCELLANEOUS CULTURAL FEATURES

- Farmstead, house (omit in urban areas)
- Church
- School
- Indian mound (label)
- Located object (label)
- Tank (label)
- Wells, oil or gas
- Windmill
- Kitchen midden

WATER FEATURES

DRAINAGE

- Perennial, double line
- Perennial, single line
- Intermittent
- Drainage end
- Canals or ditches
  - Double-line (label)
  - Drainage and/or irrigation

LAKES, PONDS AND RESERVOIRS

- Perennial
- Intermittent

MISCELLANEOUS WATER FEATURES

- Marsh or swamp
- Spring
- Well, artesian
- Well, irrigation
- Wet spot

SPECIAL SYMBOLS FOR SOIL SURVEY

SOIL DELINEATIONS AND SYMBOLS

ESCARPMENTS

- Bedrock (points down slope)
- Other than bedrock (points down slope)

SHORT STEEP SLOPE

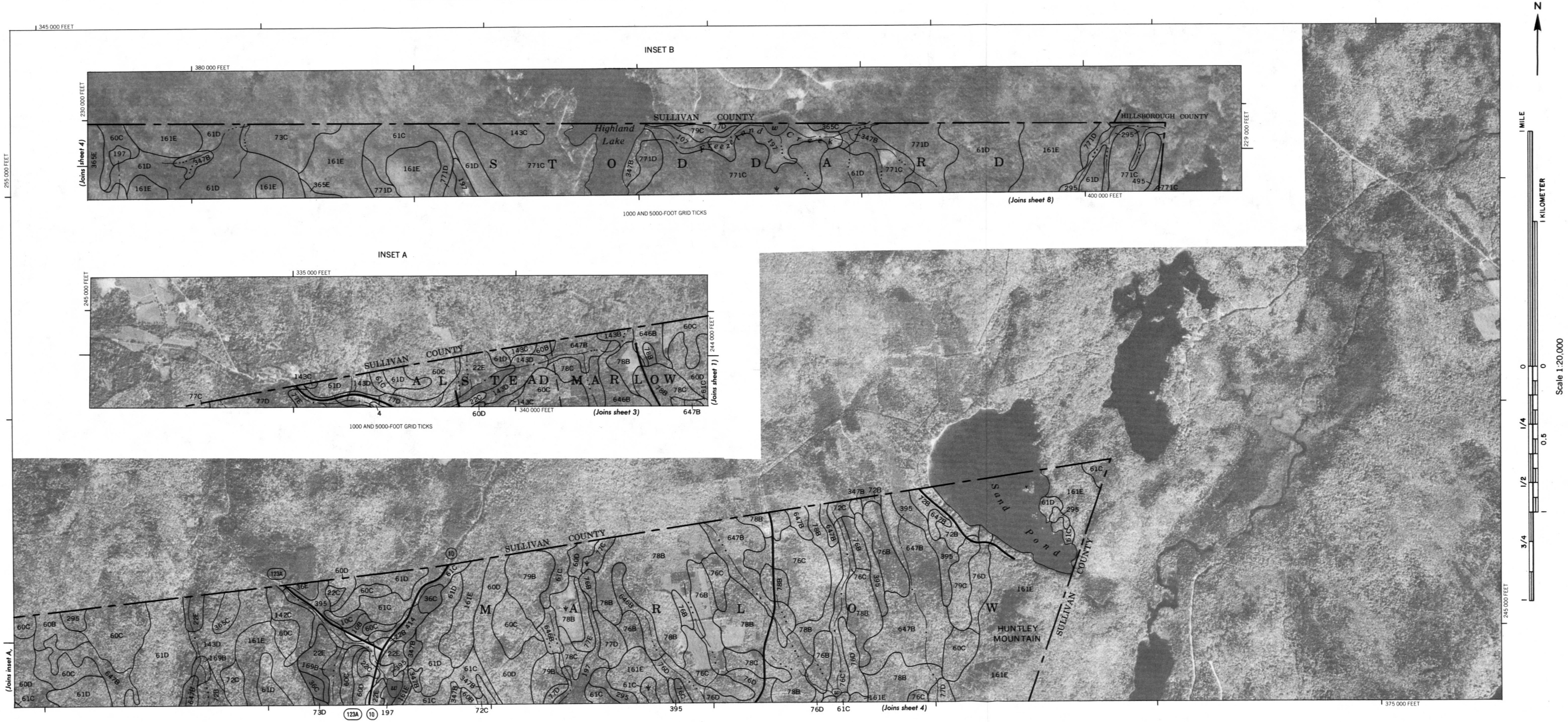
GULLY

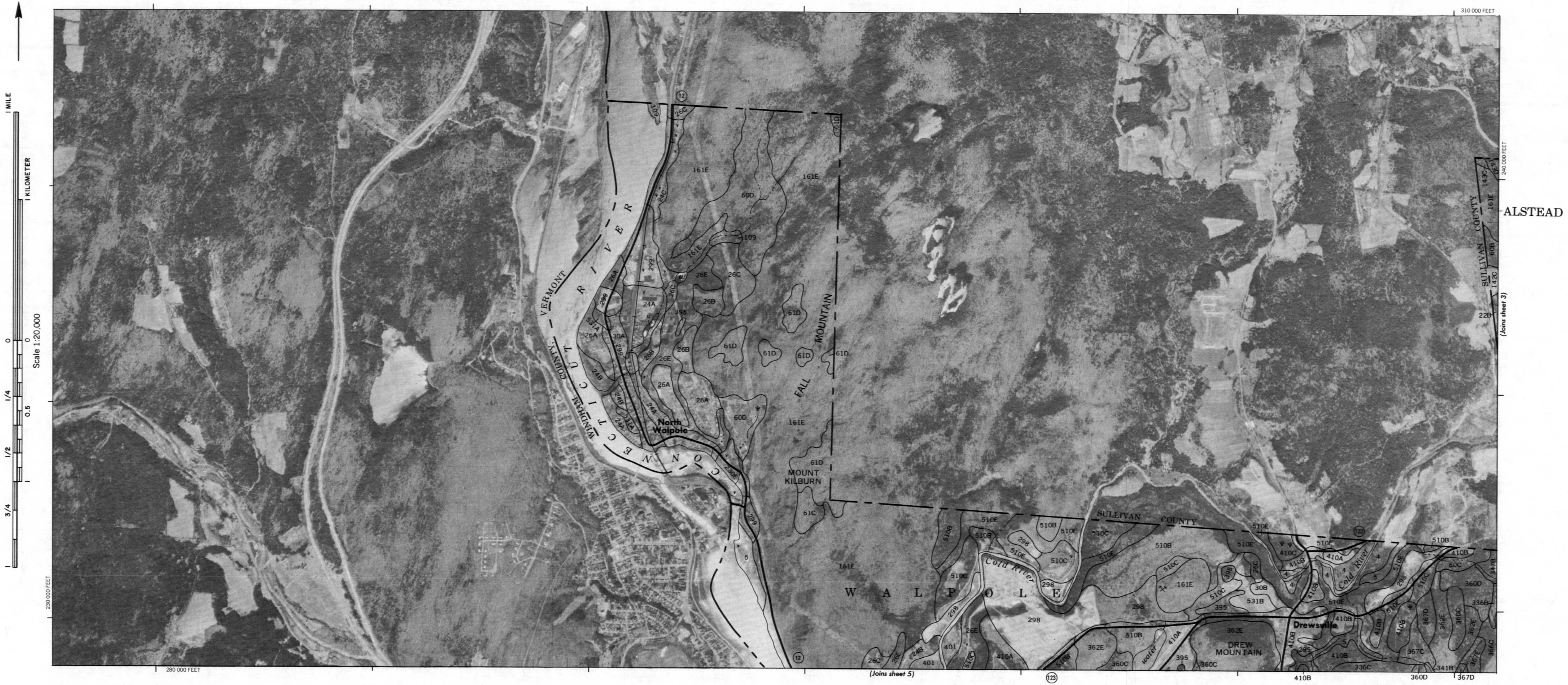
DEPRESSION OR SINK

SOIL SAMPLE (normally not shown)

MISCELLANEOUS

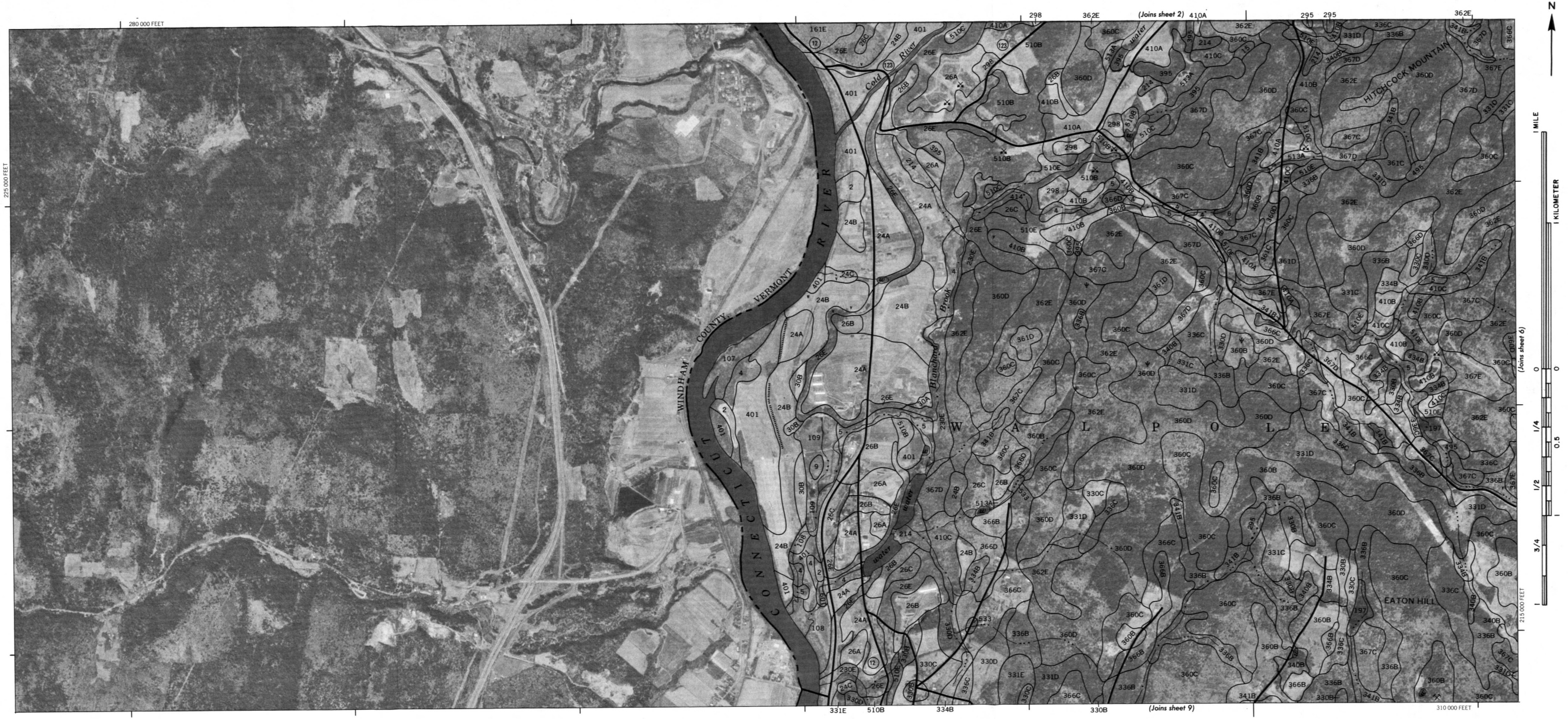
- Blowout
- Clay spot
- Gravelly spot
- Gumbo, slick or scabby spot (sodic)
- Dumps and other similar non soil areas
- Prominent hill or peak
- Rock outcrop (includes sandstone and shale)
- Saline spot
- Sandy spot
- Severely eroded spot
- Slide or slip (tips point upslope)
- Stony spot, very stony spot
- Cut and fill land


1
N
INSET B
380 000 FEET
230 000 FEET
SULLIVAN COUNTY
HILLSBOROUGH COUNTY
Highland Lake
Freezeland Creek
S T O D D A R D
(Joins sheet 4)
(Joins sheet 8)
229 000 FEET
400 000 FEET
1000 AND 5000-FOOT GRID TICKS
INSET A
335 000 FEET
245 000 FEET
SULLIVAN COUNTY
A L S T E A D
M A R L O W
(Joins sheet 3)
(Joins sheet 1)
244 000 FEET
340 000 FEET
1000 AND 5000-FOOT GRID TICKS
345 000 FEET
255 000 FEET
SULLIVAN COUNTY
M A R L O W
Sand Pond
HUNTLEY MOUNTAIN
SULLIVAN COUNTY
(Joins inset A)
(Joins sheet 4)
245 000 FEET
375 000 FEET
1 MILE
1 KILOMETER
Scale 1:20,000
0
1/4
1/2
3/4
0.5

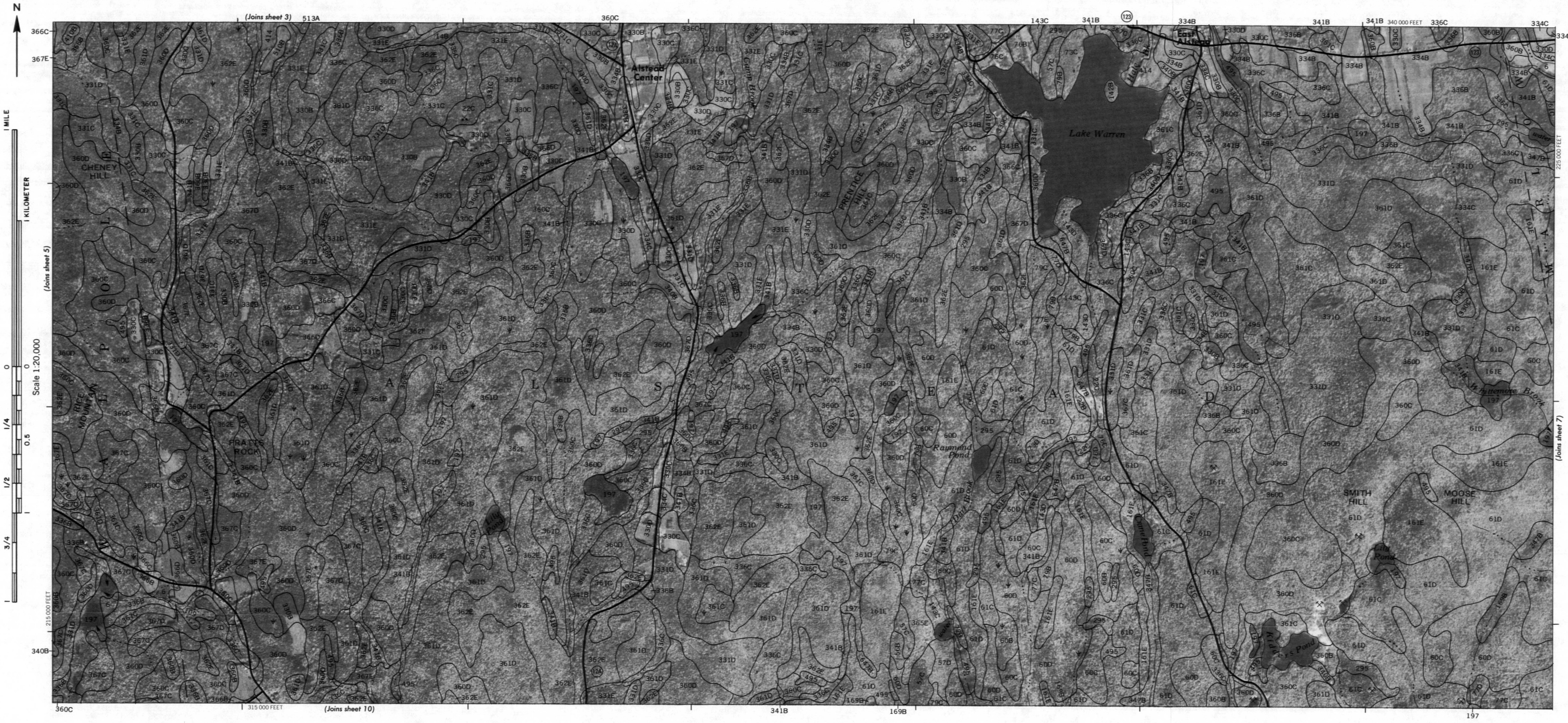

2
N
1 MILE
1 KILOMETER
Scale 1:20 000
0
1/4
0.5
1/2
3/4
310 000 FEET
240 000 FEET
230 000 FEET
280 000 FEET
ALSTEAD
SULLIVAN COUNTY
(Joins sheet 3)
(Joins sheet 5)
VERMONT
WINDHAM COUNTY
CONNECTICUT RIVER
North Walpole
FALL MOUNTAIN
MOUNT KILBURN
SULLIVAN COUNTY
W A L P O L E
Cold River
DREW MOUNTAIN
Drewsville
water
12
123
161E
60D
61D
109
26C
26E
26B
26A
24A
24B
299
395
298
510E
510B
510C
410B
410A
360D
360C
362E
336C
341B
367D
367C
531B
30B
401
4
5


(Joins inset A, sheet 1)
(Joins sheet 2)
(Joins sheet 4)
(Joins sheet 6)
315 000 FEET
240 000 FEET
230 000 FEET
340 000 FEET
SULLIVAN COUNTY
ALSTEAD
MARLOW
WALPOLE
Alstead
COBB HILL
COOK HILL
Cold River
Darby Brook
Warren Brook
Newell Pond
Vilas Pool
N
1 MILE
1 KILOMETER
Scale 1:20 000
0
1/4
1/2
3/4
0.5


N
1 MILE
1 KILOMETER
Scale 1:20 000
(Joins sheet 1)
(Joins sheet 3)
(Joins sheet 7)
(Joins inset B, sheet 1)
Stone Pond
Gustin Pond
MARLOW HILL
BALD HILL
JACKSON HILL
M A R L O W
S T O D D A R D
SULLIVAN COUNTY
Ashuelot River
Gee Brook
Lewis Brook
water
375 000 FEET
240 000 FEET
230 000 FEET
345 000 FEET


280 000 FEET
225 000 FEET
(Joins sheet 2)
(Joins sheet 6)
(Joins sheet 9)
215 000 FEET
310 000 FEET
CONNECTICUT RIVER
WINDHAM COUNTY VERMONT
Cold River
Blanchard Brook
HITCHCOCK MOUNTAIN
W A L P O L E
EATON HILL
water
N
1 MILE
1 KILOMETER
0
1/4
1/2
3/4
0.5

SOIL SURVEY OF CHESHIRE COUNTY, NEW HAMPSHIRE — SHEET NUMBER 6



(Joins sheet 4)
(Joins sheet 6)
(Joins sheet 8)
(Joins sheet 11)
MARLOW
STODDARD
Marlow
MACK HILL
PUMPKIN HILL
HUBBARD HILL
PITCHER MOUNTAIN
HODGEMAN HILL
TOWNE HILL
Big Pond
Cold Spring Pond
Village Pond
Fox Brook
Abbott Brook
Ashuelot River
Grassy Brook
Kemball Brook
345 000 FEET
375 000 FEET
225 000 FEET
215 000 FEET
1 MILE
1 KILOMETER
Scale 1:20,000
N

N

SOIL SURVEY OF CHESHIRE COUNTY, NEW HAMPSHIRE — SHEET NUMBER 8

SOIL SURVEY OF CHESHIRE COUNTY, NEW HAMPSHIRE — SHEET NUMBER 9

SOIL SURVEY OF CHESHIRE COUNTY, NEW HAMPSHIRE — SHEET NUMBER 10


N
345 000 FEET
(Joins sheet 7)
210 000 FEET
ALSTEAD
MARLOW
ROBINSON HILL
PARKER HILL
SHEDD HILL
EATON HILL
STODDARD
LOCKE HILL
WRIGHT HILL
GILSUM
ASHUELOT RIVER
Center Pond
(Joins sheet 12)
(Joins sheet 10)
JOSLIN HILL
FROST HILL
Great Brook
Taylor Pond
Robinson Brook
Davis Brook
Chandler water
Meadow Brook
DAKIN HILL
SULLIVAN
200 000 FEET
(Joins sheet 15)
375 000 FEET
1 MILE
1 KILOMETER
Scale 1:20,000
0
1/4
1/2
3/4
0.5


N
1 MILE
1 KILOMETER
Scale 1:20,000
(Joins sheet 8)
(Joins sheet 11)
(Joins sheet 16)
410 000 FEET
210 000 FEET
380 000 FEET
200 000 FEET
Stoddard
Highland L.
BACON LEDGE
REED HILL
Island Pond
Upton Pond
Barrett Pond
N. Branch
S T O D D A R D
MOUNT STODDARD
MORRISON HILL
HILLSBOROUGH COUNTY


N
(Joins sheet 9)
(Joins sheet 14)
(Joins sheet 17)
280 000 FEET
195 000 FEET
185 000 FEET
310 000 FEET
W A L P O L E
W E S T M O R E L A N D
CONNECTICUT RIVER
WINDHAM COUNTY, VERMONT
Great Brook
Houghton Brook
Aldrich Brook
GILBOA MOUNTAIN
1 MILE
1 KILOMETER
0
1/4
1/2
3/4
0.5
Scale 1:20,000


14
N
(Joins sheet 10)
(Joins sheet 13)
(Joins sheet 15)
(Joins sheet 18)
340 000 FEET
315 000 FEET
195 000 FEET
185 000 FEET
1 MILE
1 KILOMETER
Scale 1:20 000
DERRY HILL
JOSLIN HILL
SURRY MOUNTAIN
WALPOLE
S U R R Y
G I L S U M
Surry
Merriam Brook
Ashuelot River
ASHUELOT RIVER
Lily Pond
SMITH HILL
BRIGHAM HILL
SULLIVAN
Brook
White Brook
Beaver Brook
BEAR DEN HILL
Surry Mountain Reservoir
WESTMORELAND
MINE LEDGE
WEBSTER HILL
KEENE


N
(Joins sheet 11)
(Joins sheet 14)
(Joins sheet 16)
(Joins sheet 19)
345 000 FEET
375 000 FEET
195 000 FEET
185 000 FEET
BOYNTON HILL
SPAULDING HILL
WINCH HILL
HUBBARD HILL
Chapman Pond
Spaulding Brook
Great Brook
Bolster Pond
Bolster Brook
Ellis Reservoir
Otter Brook
Meetinghouse Brook
Sullivan
BROOKS HILL
MELVILLE HILL
GRANITE LAKE
Munsonville
FELT HILL
S T O D D A R D
S U L L I V A N
N E L S O N
1 MILE
1 KILOMETER
Scale 1:20 000
0
1/4
1/2
3/4
0.5


N
1 MILE
1 KILOMETER
Scale 1:20,000
0
1/4
1/2
3/4
0
0.5
1
(Joins sheet 12)
(Joins sheet 15)
(Joins sheet 20)
380 000 FEET
185 000 FEET
195 000 FEET
410 000 FEET
S T O D D A R D
N E L S O N
Robb Reservoir
Rye Pond
FLETCHER HILL
TOLMAN HILL
HOLT HILL
ROLLSTONE MOUNTAIN
Bailey Brook
HILLSBOROUGH COUNTY
123
9

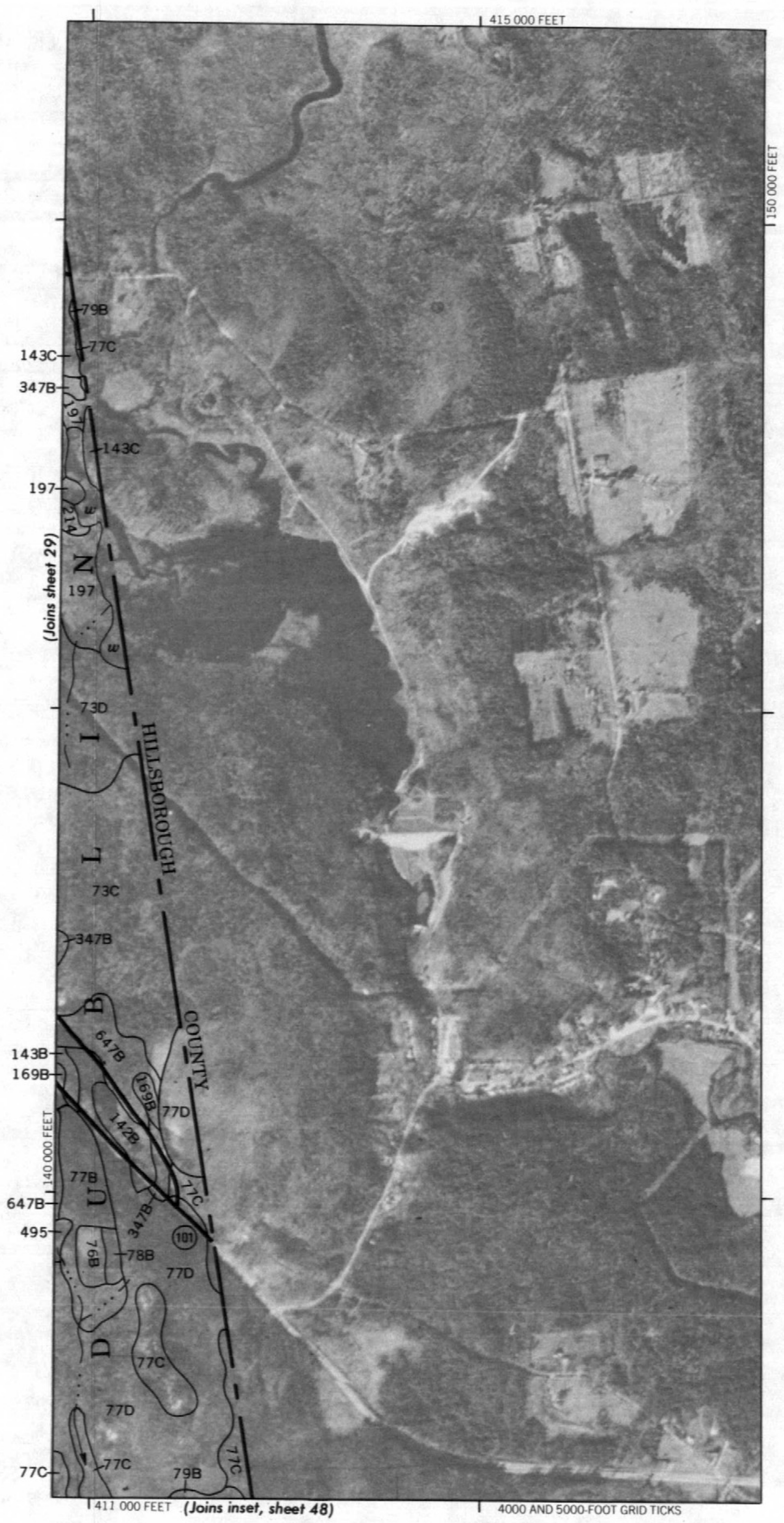
SOIL SURVEY OF CHESHIRE COUNTY, NEW HAMPSHIRE — SHEET NUMBER 17


N
1 MILE
1 KILOMETER
Scale 1:20,000
0
1/4
0.5
1/2
3/4
(Joins sheet 14)
(Joins sheet 17)
(Joins sheet 19)
(Joins sheet 22)
340 000 FEET
180 000 FEET
315 000 FEET
170 000 FEET
WESTMORELAND
S U R R Y
K E E N E
G I L S U M
MINE LEDGE
GRAYS HILL
Surry Mountain Reservoir
Goose Pond
Black Brook
Ashuelot River
Sturtevant Brook
Dickinson Brook
Beaver Brook


(Joins sheet 15)
(Joins sheet 18)
(Joins sheet 20)
(Joins sheet 23)
345 000 FEET
375 000 FEET
180 000 FEET
170 000 FEET
SULLIVAN
KEENE
ROXBURY
NELSON
HARRISVILLE
NIMMS HILL
HARDY HILL
THE PINNACLE
Nelson
Center Pond
Silver Lake
Woodward Pond
Childs Bog
Otter Brook
Wheeler Brook
water
N
1 MILE
1 KILOMETER
Scale 1:20 000


N
1 MILE
1 KILOMETER
Scale 1:20,000
0
1/4
0.5
1/2
3/4
1
(Joins sheet 16)
(Joins sheet 19)
(Joins sheet 24)
395 000 FEET
180 000 FEET
170 000 FEET
380 000 FEET
OSGOOD HILL
HURD HILL
BLOOD HILL
Spoonwood Pond
Nubanusit Lake
Tolman Pond
Brickyard Brook
Childs Bog
NELSON
HARRISVILLE
HILLSBOROUGH COUNTY

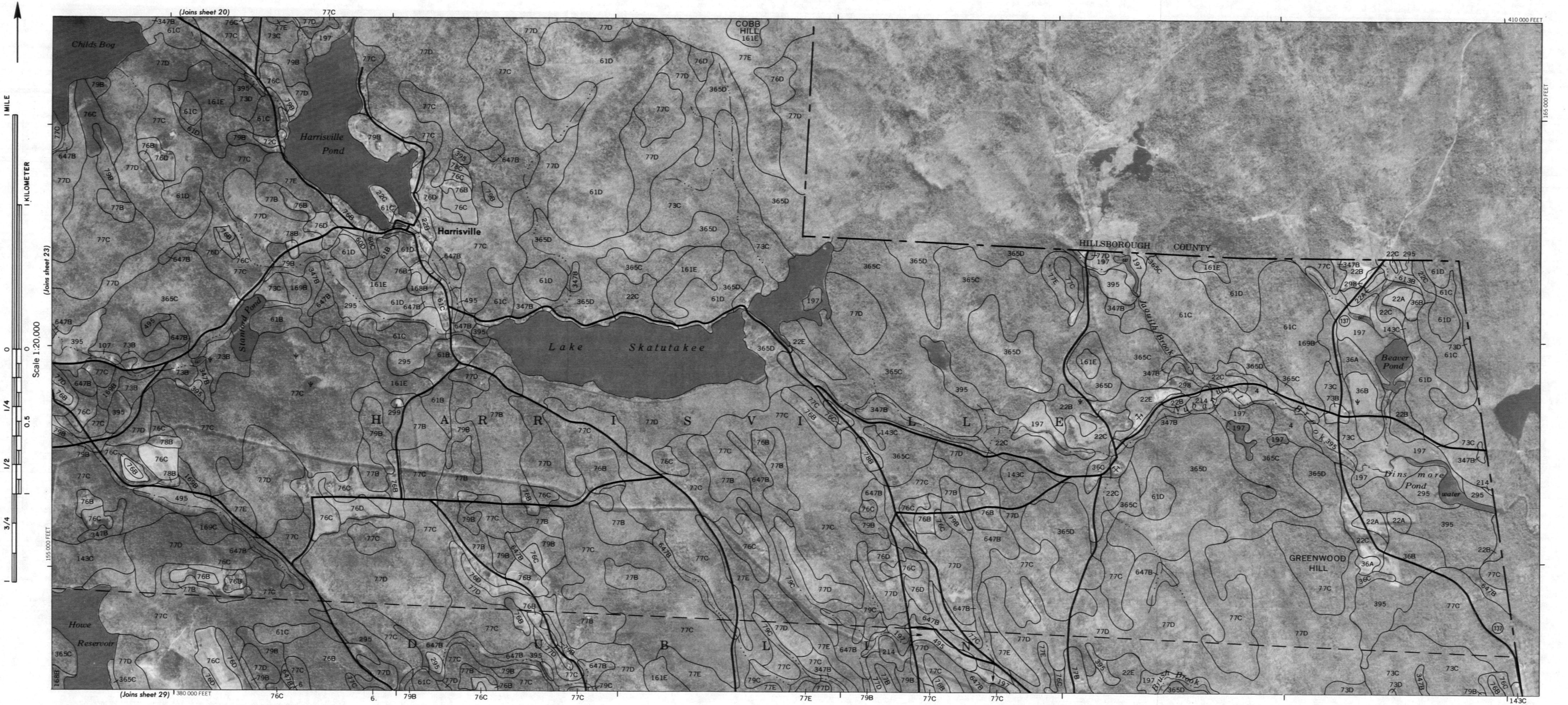
INSET


415 000 FEET
150 000 FEET
140 000 FEET
411 000 FEET
(Joins sheet 29)
(Joins inset, sheet 48)
DUBLIN
HILLSBOROUGH
COUNTY
4000 AND 5000-FOOT GRID TICKS

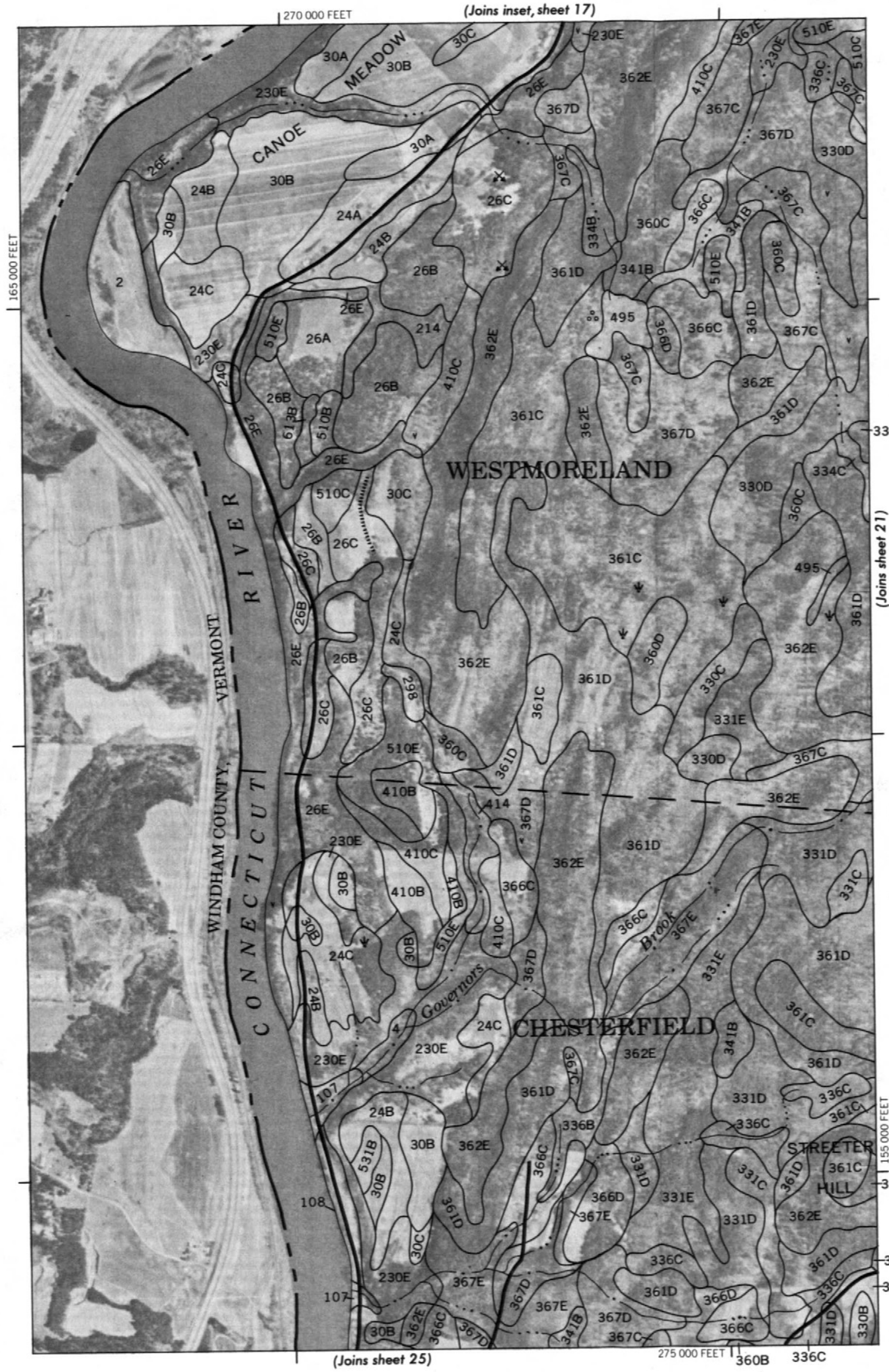
SOIL SURVEY OF CHESHIRE COUNTY, NEW HAMPSHIRE — SHEET NUMBER 21


22
N
1 MILE
1 KILOMETER
Scale 1:20,000
0
1/4
1/2
3/4
1
0
0.5
(Joins sheet 18)
(Joins sheet 27)
(Joins sheet 21)
(Joins sheet 23)
340 000 FEET
165 000 FEET
155 000 FEET
315 000 FEET
WESTMORELAND
CHESTERFIELD
STEARNS HILL
WEST HILL
BEECH HILL
KEENE
(county seat)
K E E N E
Wilson Pond
Tenant Swamp
ASHUELOT RIVER
Black Brook
White Brook
Hurricane Brook
Grimes Brook
Dickinson Brook
Ash Swamp Brook
Hill Brook
water


(Joins sheet 19)
(Joins sheet 22)
(Joins sheet 24)
(Joins sheet 28)
345 000 FEET
165 000 FEET
155 000 FEET
375 000 FEET
N
1 MILE
1 KILOMETER
Scale 1:20 000
0
1/4
1/2
3/4
0.5
KEENE
ROXBURY
HARRISVILLE
MARLBOROUGH
DUBLIN
BALD HILL
DERBY HILL
PARKER HILL
HARDY HILL
HORSE HILL
KIDDER HILL
WILLARD HILL
Woodward Pond
Silver Lake
Childs Bog
Chesham Pond
Chesham
Babbidge Reservoir
Spectacle Pond
Russell Reservoir
Clapp Pond
Howe Reservoir
Wight Pond
Roaring Brook
Minnewawa Brook
Willard Brook
Otter Brook
water
101


N
1 MILE
1 KILOMETER
Scale 1:20,000
0
1/4
1/2
3/4
1
0
0.5
(Joins sheet 20)
(Joins sheet 23)
(Joins sheet 29)
380 000 FEET
410 000 FEET
165 000 FEET
155 000 FEET
Childs Bog
Harrisville Pond
Harrisville
Stanford Pond
Lake Skatutakee
COBB HILL
HILLSBOROUGH COUNTY
Beaver Pond
Dinsmore Pond
water
GREENWOOD HILL
Howe Reservoir
Brush Brook
Jaquith Brook
H A R R I S V I L L E
D U B L I N
137

INSET


(Joins inset, sheet 17)
270 000 FEET
165 000 FEET
CANOE
MEADOW
WESTMORELAND
CHESTERFIELD
STREETER HILL
Governors
Brook
CONNECTICUT RIVER
WINDHAM COUNTY, VERMONT
(Joins sheet 21)
155 000 FEET
275 000 FEET
(Joins sheet 25)


260 000 FEET
(Joins inset, sheet 25)
150 000 FEET
Catsbane Island
RIVER
CONNECTICUT
WINDHAM COUNTY, VERMONT
SARGENT HILL
C H E S T E R F I E L D
Catsbane Bk
(Joins sheet 26)
140 000 FEET
275 000 FEET
(Joins sheet 30)
N
1 MILE
1 KILOMETER
0
1/4
1/2
3/4
0.5
Scale 1:20 000

SOIL SURVEY OF CHESHIRE COUNTY, NEW HAMPSHIRE — SHEET NUMBER 26

(Joins sheet 22)
(Joins sheet 26)
(Joins sheet 28)
(Joins sheet 32)
315 000 FEET
340 000 FEET
150 000 FEET
140 000 FEET
N
CHESTERFIELD
WEST HILL
K E E N E
S W A N Z E Y
DILLANT HOPKINS AIRPORT
MOUNT CRESSON
Wilson Pond
Ashuelot River
ASHUELOT RIVER
South Branch
California Brook
Hill Brook
Bailey Brook
New Run Brook
Ash Swamp Brook
Otter Brook
water
1 MILE
1 KILOMETER
Scale 1:20 000


N
(Joins sheet 23)
(Joins sheet 27)
(Joins sheet 29)
(Joins sheet 33)
1 MILE
1 KILOMETER
Scale 1:20,000
375 000 FEET
150 000 FEET
140 000 FEET
345 000 FEET
K E E N E
S W A N Z E Y
M A R L B O R O U G H
D U B L I N
MARLBOROUGH
MOUNT HUGGINS
FORBUSH HILL
MASSEY HILL
SPAULDING HILL
SUNSET HILL
Stone Pond
Meetinghouse Pond
Wight Pond
Minnewawa Brook
Robbins Brook
Mountain Brook
Forbush Brook


(Joins sheet 24)
(Joins sheet 28)
(Joins inset, sheet 20)
(Joins sheet 34)
380 000 FEET
410 000 FEET
150 000 FEET
140 000 FEET
N
BEECH HILL
HURRICANE HILL
Dark Pond
Dublin Pond
Dublin
Reservoir
Howe
Brush Brook
Bonds Corner
Mud Pond
Hinds Brook
Mill Brook
Stanley Brook
D U B L I N
1 MILE
1 KILOMETER
Scale 1:20 000
0
1/4
1/2
3/4
0.5
101
137

30

N

1 MILE
1 KILOMETER
Scale 1:20,000
0
1/4
1/2
3/4
1
0
0.5
1

INSET

SOIL SURVEY OF CHESHIRE COUNTY, NEW HAMPSHIRE — SHEET NUMBER 31

SOIL SURVEY OF CHESHIRE COUNTY, NEW HAMPSHIRE — SHEET NUMBER 32


33
N
(Joins sheet 28)
(Joins sheet 32)
(Joins sheet 34)
(Joins sheet 37)
345 000 FEET
375 000 FEET
135 000 FEET
125 000 FEET
D U B L I N
S W A N Z E Y
M A R L B O R O U G H
J A F F R E Y
T R O Y
BIGELOW HILL
Perkins Pond
Farrar Pond
Shaker Brook
Brook
water
1 MILE
1 KILOMETER
Scale 1:20 000


N
1 MILE
1 KILOMETER
Scale 1:20,000
0
1/4
0.5
1/2
3/4
(Joins sheet 29)
(Joins sheet 33)
(Joins sheet 38)
(Joins inset, sheet 48)
410 000 FEET
135 000 FEET
125 000 FEET
380 000 FEET
MONADNOCK MOUNTAIN
Gilson Pond
Thorndike Pond
Frost Pond
Parker Pond
Garfield Pond
Poole Res
Milk Bk
Stanley Brook
Frost Bk
Tyler Brook
Stony Brook
Fassett Brook


35
N
(Joins sheet 31)
(Joins sheet 30)
(Joins sheet 36)
(Joins sheet 39)
280 000 FEET
305 000 FEET
120 000 FEET
110 000 FEET
PORTER HILL
PISGAH MOUNTAIN RANGE
W I N C H E S T E R
H I N S D A L E
BISHOP MOUNTAIN
TUFTS MOUNTAIN
LADDER HILL
SUGAR HILL
Pisgah Reservoir
Kilburn Pond
Kilburn Brook
Tufts Pond
Tufts Brook
Hog Tongue Brook
Broad Brook
Snow Brook
Spot Meadow
Meadow Brook
Rixford Brook
Hale Pond
Bell Brook
Ashuelot River
1 MILE
1 KILOMETER
Scale 1:20,000


N
(Joins sheet 32)
(Joins sheet 35)
(Joins sheet 37)
(Joins sheet 40)
1 MILE
1 KILOMETER
Scale 1:20 000
340 000 FEET
120 000 FEET
110 000 FEET
310 000 FEET
FRANKLIN MOUNTAIN
BULLARD MOUNTAIN
HUGHES HILL
RATTLESNAKE MOUNTAIN
GUN MOUNTAIN
CORLISS MOUNTAIN
GARDINER MOUNTAIN
FRANCONIA MOUNTAIN RANGE
ASHUELOT
RIVER
Wheelock
Brook
Forest
Lake
Martin
Brook
Falls
S W A N Z E Y
C H E S T E R
R I C H M O N D


37
N
(Joins sheet 33)
(Joins sheet 36)
(Joins sheet 38)
(Joins sheet 41)
345 000 FEET
120 000 FEET
110 000 FEET
375 000 FEET
S W A N Z E Y
T R O Y
R I C H M O N D
F I T Z W I L L I A M
J A F F R E Y
BRENNAN HILL
TROY
FERN HILL
GAP MOUNTAIN
Bridge Brook
Falls Brook
Quarry Brook
Rockwood Pond
Bowker Pond
Scott Pond
1 MILE
1 KILOMETER
Scale 1:20 000


N
(Joins sheet 34)
(Joins sheet 37)
(Joins sheet 42)
(Joins inset, sheet 43)
1 MILE
1 KILOMETER
Scale 1:20,000
410 000 FEET
120 000 FEET
110 000 FEET
380 000 FEET
CUMMINGS
MEADOW
Mead Brook
Jaffrey Center
J A F F R E Y
Jaffrey
Gilmore Pond
Dead Swamp
Hodge Pond
Cheshire Pond
Contoocook Lake
Contoocook River
Scott Pond
Scott Brook
water

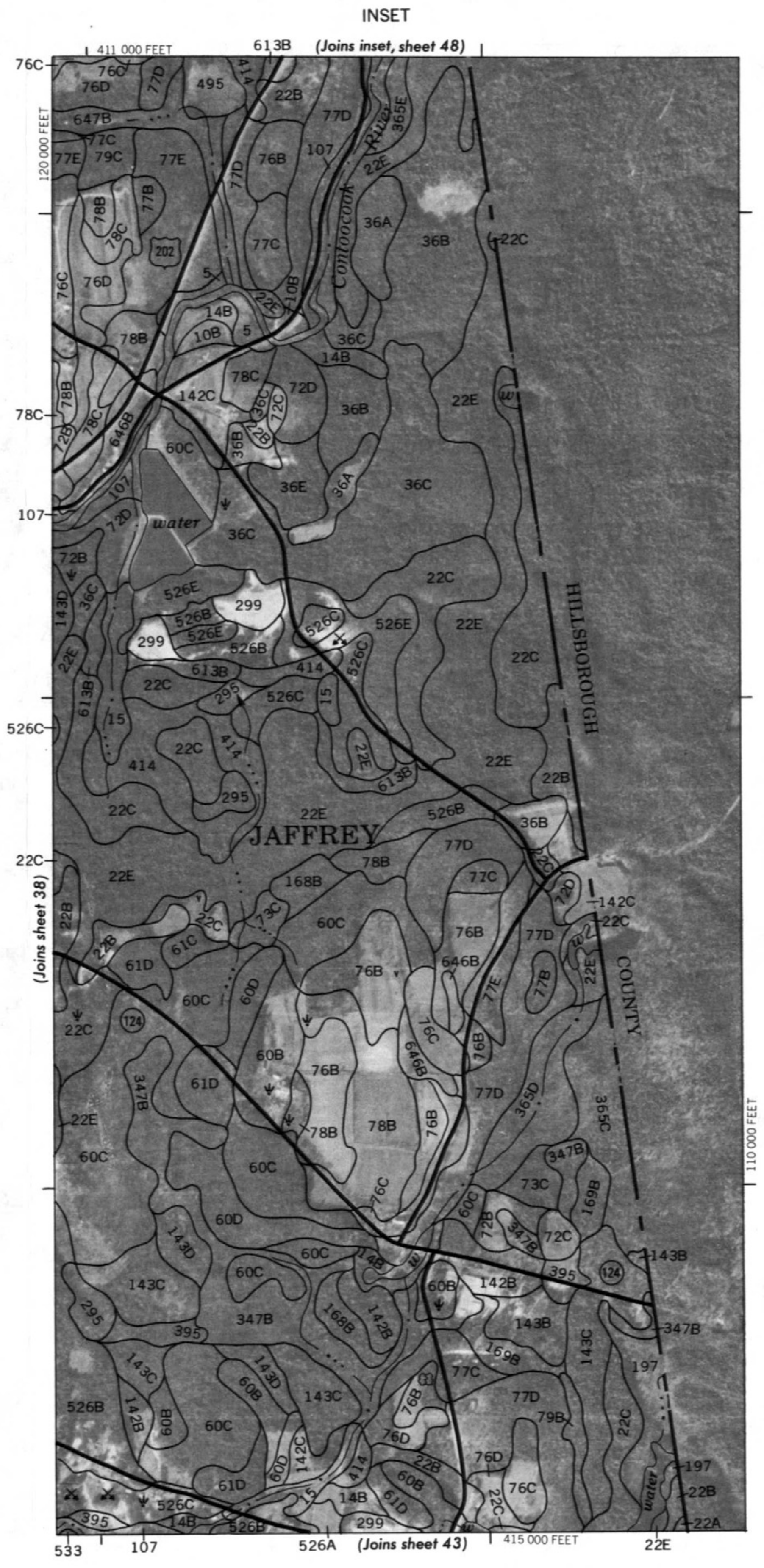

(Joins sheet 35)
(Joins inset, sheet 44)
(Joins sheet 40)
(Joins sheet 44)
280 000 FEET
305 000 FEET
105 000 FEET
95 000 FEET
N
HINSDALE
ASHUELOT RIVER
BISCUIT HILL
CANNON HILL
CAT DEN MOUNTAIN
TOWER HILL
SCHOFIELD MOUNTAIN
GUN MOUNTAIN
BAKER HILL
MEETINGHOUSE HILL
Ashuelot
Winchester
H I N S D A L E
W I N C H E S T E R
CONNECTICUT RIVER
WINDHAM COUNTY, VERMONT
Broad Brook
Snow Brook
Mirey Brook
1 MILE
1 KILOMETER
Scale 1:20 000
0
1/4
1/2
3/4
0.5


N
(Joins sheet 36)
(Joins sheet 39)
(Joins sheet 41)
(Joins sheet 45)
340 000 FEET
310 000 FEET
105 000 FEET
95 000 FEET
Scale 1:20,000
1 MILE
1 KILOMETER
W I N C H E S T E R
R I C H M O N D
Forest Lake
WILLARD MOUNTAIN
WILLIS MOUNTAIN
SCOTT MOUNTAIN
STONE MOUNTAIN
ATTLEBORO MOUNTAIN
FRANCONIA MOUNTAIN RANGE
PEAKED MOUNTAIN
Sandy Pond
Mud Pond
Roaring Brook
Brickyard Brook
Rice Brook
Mirey Brook
Richmond

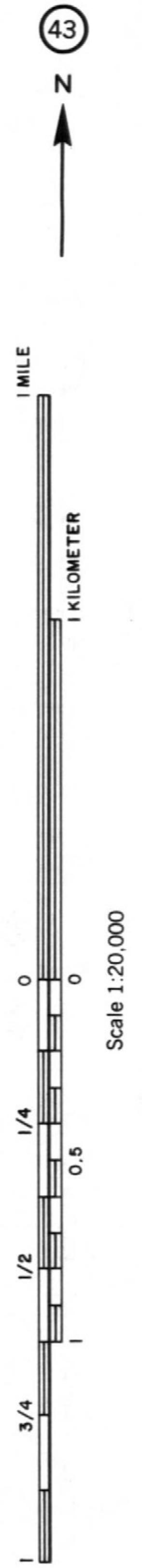

41
N
(Joins sheet 37)
(Joins sheet 40)
(Joins sheet 42)
(Joins sheet 46)
345 000 FEET
375 000 FEET
105 000 FEET
95 000 FEET
TROY
LITTLE MONADNOCK MOUNTAIN
Rockwood Pond
THE PINNACLE
Fitzwilliam
Fitzwilliam Depot
Scott Pond
RICHMOND
FITZWILLIAM
GRASSY HILL
WEBB HILL
Tully Brook
Kemp Brook
Stone Pond
water
1 MILE
1 KILOMETER
Scale 1:20,000


N
(Joins sheet 38)
(Joins sheet 41)
(Joins sheet 43)
(Joins sheet 47)
Scale 1:20,000
1 MILE
1 KILOMETER
410 000 FEET
105 000 FEET
95 000 FEET
380 000 FEET
JAFFREY
Scott Pond
Scott
Pond
FULLAM HILL
FITZWILLIAM
Scott Brook
Pearly
Pond
FRANKLIN PIERCE COLLEGE
Pool
Pond
West Rindge
RINDGE
Contoocook Lake
Grassy
Pond
Rugg Pond
TODD HILL
Tarbell Brook

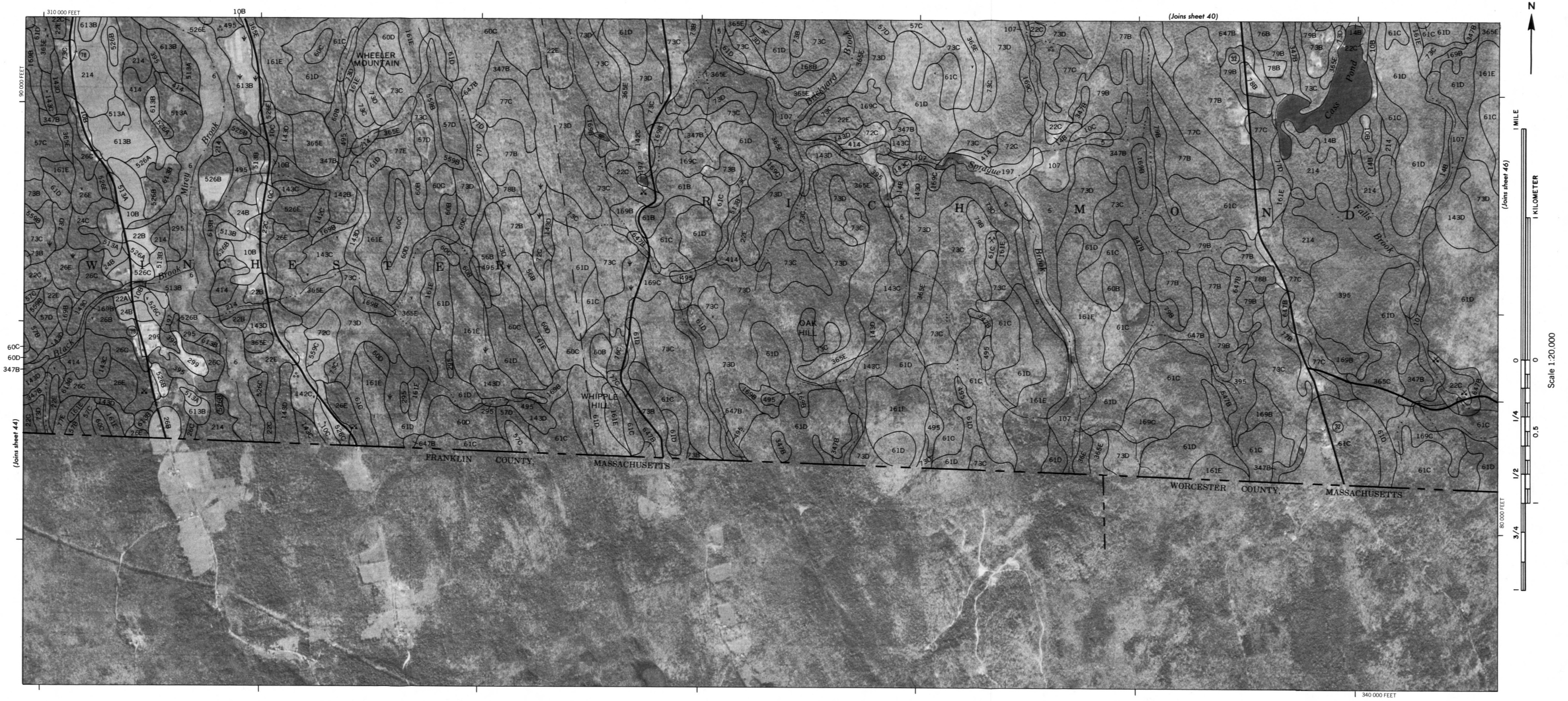
INSET



4000 AND 5000-FOOT GRID TICKS



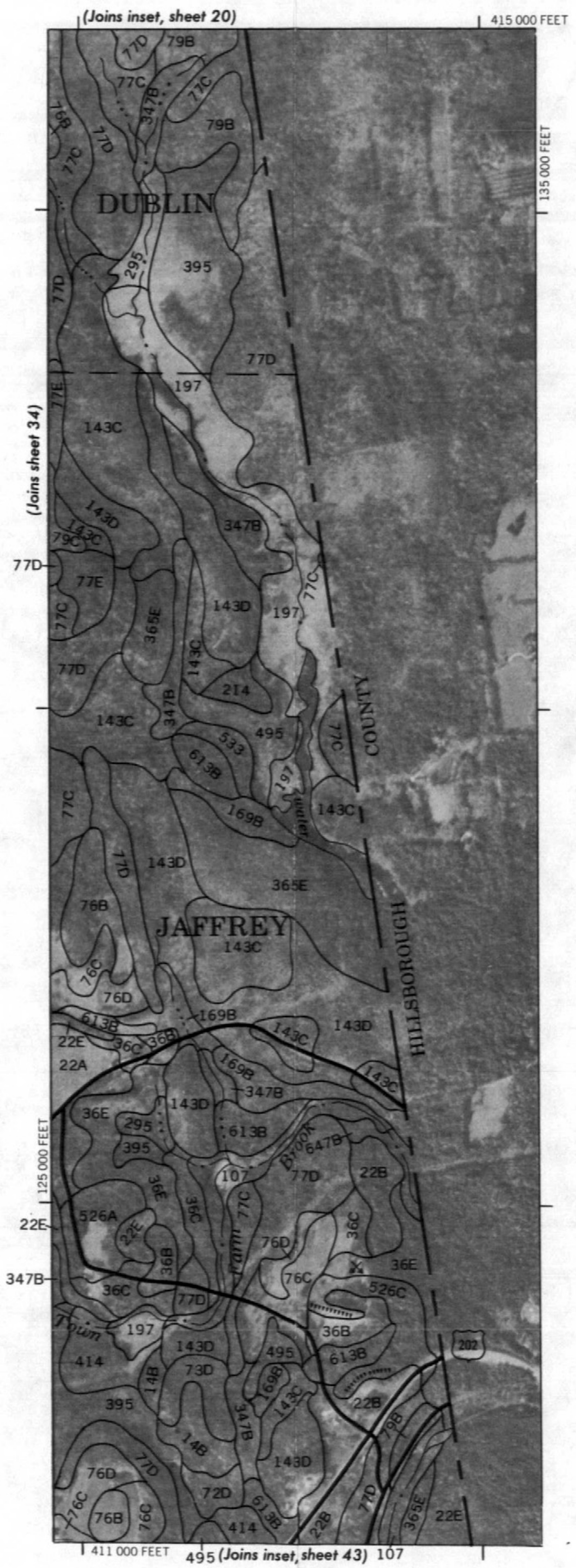

N
1 MILE
1 KILOMETER
Scale 1:20,000
(Joins sheet 39)
305 000 FEET
90 000 FEET
(Joins sheet 45)
80 000 FEET
280 000 FEET
HINSDALE
WINDHAM COUNTY, VERMONT
CONNECTICUT RIVER
W I N C H E S T E R
WOODS HILL
HAMMOND HILL
CURTIS HILL
Pauchaug Brook
HOGBACK MOUNTAIN
FRANKLIN COUNTY, MASSACHUSETTS
INSET
(Joins inset, sheet 30)
270 000 FEET
120 000 FEET
115 000 FEET
265 000 FEET
(Joins sheet 39)
WINDHAM COUNTY, VERMONT
CONNECTICUT RIVER
H I N S D A L E
Stebbin Island


45
N
(Joins sheet 40)
(Joins sheet 44)
(Joins sheet 46)
310 000 FEET
340 000 FEET
90 000 FEET
80 000 FEET
WHEELER MOUNTAIN
OAK HILL
WHIPPLE HILL
W I N C H E S T E R
R I C H M O N D
Mirey Brook
Black Brook
Backyard Brook
Sprague Brook
Falls Brook
Cass Pond
FRANKLIN COUNTY, MASSACHUSETTS
WORCESTER COUNTY, MASSACHUSETTS
1 MILE
1 KILOMETER
Scale 1:20 000
0
1/4
1/2
3/4
0.5


N
1 MILE
1 KILOMETER
Scale 1:20,000
0
1/4
1/2
3/4
0
0.5
1
(Joins sheet 41)
(Joins sheet 45)
(Joins sheet 47)
375 000 FEET
190 000 FEET
180 000 FEET
345 000 FEET
R I C H M O N D
F I T Z W I L L I A M
HAYDEN HILL
BINGHAM HILL
GRANIT HILL
Laurel Lake
Sportsman Pond
Kemp Brook
Tully Brook
Boyce Brook
Falls Brook
Scott Brook
WORCESTER COUNTY
MASSACHUSETTS


(Joins sheet 42)
(Joins sheet 46)
(Joins sheet 48)
380 000 FEET
410 000 FEET
90 000 FEET
80 000 FEET
N
BEEBE HILL
TOWNE HILL
THRASHER HILL
LORD HILL
Rindge
Sip Pond
Reservoirs
Tolbert Brook
Damon
Sip Pond Brook
Robbins Pond
Lord Brook
Lake Monomonac
Paradise Island
F I T Z W I L L I A M
R I N D G E
WORCESTER COUNTY, MASSACHUSETTS
1 MILE
1 KILOMETER
Scale 1:20,000

INSET



4000 AND 5000-FOOT GRID TICKS